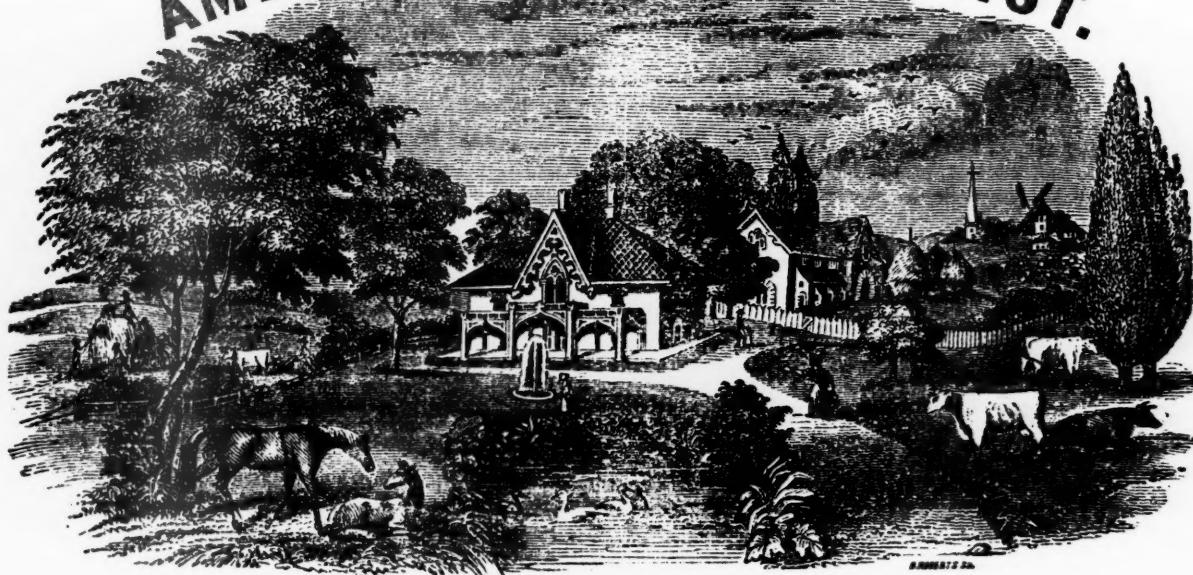


THE  
*AMERICAN AGRICULTURIST.*



Agriculture is the most healthful, the most useful, and the most noble employment of Man.—*Washington.*

VOL. III.

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NO. I.

A. B. ALLEN, Editor.

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THE TIMES.

In presenting the First Number of the Third Volume of the American Agriculturist to our readers, we can not but congratulate them on the change of times which has taken place within one short year, and look back with some degree of satisfaction to an article in our last January number, anticipating in a measure all that has come to pass. If the products of the farm are still thought to be too low, everything else is in proportion—not even excepting money, which can not be loaned at this present moment by capitalists, at a higher rate of interest per annum in Wall street, than it would have commanded per month six or seven years ago, when wheat, corn, pork, &c., were more than double the price they now are. But we contend that agricultural products, taking everything into consideration, are now bringing fair prices; and we think that our farmers generally have no reason to complain. There is no doubt in our mind, however, that they will gradually advance, and upon the opening of spring, and next summer, rule higher than they now do. There are many reasons why this should be so, the principal of which are, that the crops of hay, potatoes, and other roots, corn, sugar, and especially of cotton, have not been equal this year to those of the past. A general

revival of business has also taken place; and a portion of our population which had returned to farming, have again resumed their mechanical and manufacturing employments. Owing to the great abundance of money, new enterprises are likely to be undertaken on private account; our general government will undoubtedly commence a fresh system of internal improvements—more especially such as regards facilitating the navigation of the western rivers, and improving the harbors on the lakes; the western states will also be enabled to go on with their most promising railroads and canals; and then if we look abroad at the states in Europe, we see a general revival of business there, and the prospect, in addition, of the duties on Flour and Meal being still further reduced in Great Britain, so much so, as to considerably increase the amount of our exportation of these articles. We could state other causes that are at work which are likely to slightly raise the price of provisions, but deem it unnecessary to dwell upon them. We think it disgraceful any longer now to speak of hard times; for, to the great majority of our citizens, they were never really substantially better. Let every one, then, be industrious and frugal—keep out of debt—look forward to the future with renewed hope—trust in Providence, and

be assured that the country has again entered upon a bright and prosperous career.

#### A FARMER'S EDUCATION.

We can not think that the present system of educating the rural population of the country is what it ought to be. There are many things which might be taught in our district schools, which, so far as our information extends, seem never to have been thought of; things which may not only be made extremely interesting and instructive to children, but at the same time prove of great individual benefit when grown up, and they come to act for themselves; and such also as would add largely to the wealth, strength, and resources of the country. Here is one item, for example—apples. We find one person in this vicinity growing and shipping these to England, and realising \$9 per barrel; another selling them in this market from \$4 to \$5 per barrel; while apples of an inferior kind are not worth over \$1 to \$2, and many are so poor that they could scarcely be given away.

Now a child knows good and poor fruit by its taste; but there are other points about it to which it is important to direct attention. Suppose, then, any person residing in the school-district who may have paid some little attention to this subject, should take a few dozen apples, pears, or any other fruits of the season of various kinds, good, bad, and indifferent, and make his way with them to the school-house, call up the children around him, and point out their relative value, and the true reason why one should be cultivated in preference to the other. He would explain that a good apple should be of a suitable size; regular, even shape; with a small stem; smooth, thin skin; rich, juicy, solid pulp; pleasant flavor, either tart or sweet; a small core, and few seeds. In short, that it should possess as much pleasant nutritious substance as possible, combined with the least amount of stem, skin, core, and seed. Now this, if a good bearer, would be a superior apple—worthy of a name, and of propagation. Then, by way of contrast, the children should be shown a poor apple, and their attention be called to that—not only by allowing them to judge of the difference in taste, but also by pointing out the long, large stem; the thick, coarse skin; the dry, tough, sour pulp; the large core, and the small amount of really nutritious substance in the fruit. After this they might be taught to graft, and be instructed upon fruit-trees in general, and the best system of

their management. Boys from 12 to 15 years old may learn all this as easily as grown men, and when they come to be grown up and manage their own farms, the great majority of them would not only have plenty of fruit around them, but that also of a first-rate quality, although they might expect no foreign market for it. If good fruit were universally cultivated throughout the country, this alone would be adding to its annual wealth several millions of dollars. In the same simple manner, the children of every rural district could be taught to judge of the relative difference in the value of vegetables; that a dry, mealy potato is not only more agreeable to their own taste, but twice, or perhaps thrice as nutritious for their stock-feeding as a poor-flavored, watery one may be. How few, if asked, can tell the difference in the value to animals of sugar-beet and mangel-wurzel, or the succulent ruta-baga and the coarse, pithy, white turnep. There is as great a difference in the nutriment of various kinds of winter-squash and pumpkins; and yet scarce any one thinks or speaks of it. The same in the grasses; in wheat, rye, barley, oats, and corn; in cotton, and, we are not sure, in rice and sugar; the different breeds of horses, cattle, sheep, swine, and poultry; the plow, and, indeed, all agricultural implements. These may be called very homely subjects to be taught a child; but are they not of vast consequence in the aggregate to the man and to the country? We believe that persons may be found in nearly all our school districts, who would be quite capable of lecturing intelligently on the subjects herein mentioned, and willing to do it gratuitously; and if one hour a day for three months in the year could be given to these, the farmers of our country would greatly increase their stores of knowledge in a few years, understand the reasons of their practice better than they now do, and be working to much more profit and advantage.

When the young men had attained a mature age, they might form themselves into classes, and devote their winter evenings to obtain a knowledge of manures, soils, and the best method of improving them; and the best system of a rotation of crops. To this might be added an acquaintance with the elementary principles of chemistry, geology, botany, and mechanics. It really seems to us, that all the subjects of education which we have here mentioned, are easily attainable by every person before arriving at 21 years of age, however humble his circumstances, and without detriment to the course of studies already pursued at the district schools.

Books for reading, in the country schools especially, ought to be different from what they now are generally. They should contain more upon the subjects of agriculture, horticulture, stock-breeding, and mechanics; and less of mere literary matter. Poets, orators, and fine writers, are not as much wanted as good farmers and mechanics. We have a burning desire to see every child in the republic, male and female, educated in such a manner as to be able to make the most of the resources of nature which surround them. A thorough education in the theory and practice of agriculture, the great business of our country, and, indeed, of mankind, is what our children should be taught. As the products of agriculture may be improved and cheapened, so will it follow with everything else—manufactures, arts, literature, and time, also, to avail ourselves of their pleasures and advantages.

#### CULTIVATION OF CLEARED LANDS.

AFTER the burning is accomplished, and the land is ready for a crop, the first thing necessary to be done, if the ashes are not to be disposed of for making potash, is to take shovels and distribute them and the coals which are left by the brush and log-heaps, as widely as possible around; otherwise, those spots will remain too rich, and give the crop there a rank and uneven growth for years. This accomplished, and the land enclosed under a good fence, it is ready for tillage.

**FIRST CROPS.**—To one unacquainted with new lands, it seems to him, after the removal of the wood, not a little astonishing to witness the numerous rank weeds which instantly spring up, where before scarce one was to be seen; and we know of nothing which so strongly reminds us of the primeval curse, “thorns also and thistles shall it bring forth to thee,” as a newly-cleared forest-field. The thrifty fire-weed shoots out like thick-sown wheat; the thistle pushes up its head; and cockles, and briars, and burrs, come forth like the fabled dragon’s teeth. In order to displace these and check their growth, it becomes very important to get in such a crop as will cover the land as thickly as possible. But such, frequently, are the pressing wants of the new settler, that this can not always be accomplished; he must consequently, take things as they are with him, and do as well as possible under the circumstances of the case. His first crops, therefore, will depend mainly upon three things: 1. The nature of the soil. 2. The climate. 3. The more immediate wants of the occupant.

It must be recollected that forest-lands recently cleared, are so full of large roots of the trees just cut off, and these run so near the surface of the ground, that they make it almost impossible to plow. When the soil, however, is suitable for a good growth of corn or wheat, these crops pay so well, and are so necessary to the family of the settler, that plowing is often immediately attempted. The best instrument for this purpose, is a strong and rather narrow plow skimming the earth lightly, and armed with a strong-set, sharp cutter forward, which, as it moves along, easily severs the smaller roots, while the larger ones are adroitly avoided by the plowman. After plowing, the land is thoroughly harrowed, then all the broken roots are raked up into heaps and carted away, or are suffered to remain till sufficiently dry, and then burnt. Others do not attempt to plow at all, but after harrowing the land as well as the stumps and top-roots will permit, sow wheat broad-cast, and then harrow and brush it in. If it be a good soil for wheat, and reasonably friable, and a favorable season ensues, it takes well, smothers the weeds, and yields a fair crop even with this imperfect preparation.

When plowing is not resorted to for corn, it is planted in hills at suitable distances by walking straight forward with the hoe, removing a shallow scoop of soil, dropping the seed in, and then covering it. Some give the corn no after-culture for the first, second, and occasionally even the third year, from carelessness, laziness, or in consequence of the numerous strong roots, which, till somewhat decayed, are so great an obstruction to the plow. But this allows the weeds to spring up in great abundance, frequently almost choking the crop, and under any circumstances greatly lessening the yield. We have occasionally seen a heavy, narrow harrow, with strong, sharp teeth thickly set, made for the purpose of cutting down the weeds, to be followed with hoes. The harrow, from the nature of circumstances, is partial in its effects, and hoeing is so slow and laborious, that few settlers have patience to trouble themselves about the weeds, and they allow the corn to take its chance, and do its own battling against them, and yield what it can.

When clearing lands and putting them into cultivation, we fortunately were not much in want of wheat or corn; we more generally, therefore, put them immediately into grass, allowing them to remain so for several years, till the roots of the trees were sufficiently rotted to allow plowing with facility. Our method in effecting this, was

to burn off as early as possible, harrow well, and always sow oats with the grass-seed, no matter if as late as July or August, as the oats kept the weeds down, and if they did not ripen or get a sufficient growth to be mowed for fodder, they would at least make a good covering for the grass. We think it very important to put on an extra quantity of grass seed in first seeding new lands, as the leaves of the forest-trees on the ground, chips, roots, &c., prevent more or less of it taking. No chance should be left for the weeds to come in, as it is more difficult eradicating them at this time, after once getting their growth, than at any other.

The first cultivation of the prairies is entirely different from that of woodland; but as this subject was pretty fully discussed by Mr. Murray, and Mr. Robinson in our first volume, we shall not enter upon it, trusting that Mr. Robinson, agreeably to what he then led us to hope, will now finish up what he intended to say on these interesting matters.

Upon the management of the forest-lands at the south, we do not feel qualified to enter; and trust, therefore, some of our friends in that quarter will do it for us. We believe, however, that corn, cotton, rice, and even sugar-cane, are usually their first crops—we at least have often seen these crops growing on very new land in the southern states.

**MANURE.**—When the soil has not already a sufficient quantity in it, the best manure for new lands is lime, as this tends to hasten the decomposition of the coarse vegetable matter with which it is surcharged, faster than anything else which can usually be applied at a like cost. When clover is sown, a top-dressing with plaster is very beneficial.

#### FARM OF GEORGE DOUGLASS, Esq.

WE had so much to say in our last Volume of the agriculture of Long Island, that we do not know but our readers may think us somewhat partial to it. In describing Mr. Douglass' farm, therefore, we shall merely mention such things as we found different from others which we visited.

This excellent farm is beautifully situated on the east side of Little Neck bay. The mansion and outbuildings are elegant and commodious; the view around is picturesque and varied in a high degree, and the grounds are laid out with much taste, and handsomely planted with trees and a profusion of choice shrubbery. The garden is a very fine one indeed, and rich in vegetables, and fruits, and flowers. The fields are of convenient size and well fenced, principally with stone

wall. A good stock is kept here, mostly of milch cows of a high Durham cross, all of which prove uncommonly good milkers. From these, and the horses and oxen necessary for the farm work, a good deal of manure is made. In addition to this, the farm being bounded by the salt water, large quantities of sea-mud are thrown on the beach, which is gathered up and made to add to the riches of the dung-heap; so that Mr. Douglass has the means of enriching his land to any reasonable extent, and can, therefore, crop it more severely than if it were differently situated.

**ROTATION.**—The farm is under the management of Mr. Johnson, who politely took us over it and showed us everything which he thought might deserve attention. He puts his land hard at work, and the following is the rotation. First year, after mowing, break up the meadows and sow buckwheat. Second year, spread the manure broadcast in the spring, and plant with corn or roots. Third year, sow oats or barley, and at the proper time, after harvesting, put in wheat with grass-seed. The fourth year the wheat is harvested; the land then remains in grass for six years. Under this system the soil has been steadily increasing in fertility, and the crops good. We are not sure, with such abundant resources of manure at hand, that this rotation may not be the best, although the different kinds of grain following each other so rapidly, would, under ordinary circumstances, be considered very exhausting.

**PREVENTIVE AGAINST THE TURNEP-FLY.**—Mr. Johnson informed us, by mixing one pound of snuff, two pounds of sulphur, and two bushels of ashes together, and sowing this mixture broadcast upon the turneps as soon as they appear above ground, it would completely prevent the ravages of the fly. If soot can be had, it is also an excellent ingredient to add to the mixture.

Among other little items, we saw here a very fine Scotch cattle-dog. He is of medium size, with long, silky hair, and possesses a very intelligent countenance. He suffers somewhat from the heat of our climate; yet, nevertheless, does his work up in excellent style. Mr. Johnson has succeeded, he thinks, in acclimating the Scotch holly, so far that it stood out the severity of last winter without protection, and flourished well the past summer. We should think this a pretty severe test; and we shall rejoice if this beautiful shrub, with its silver-edged, deep-green foliage, can be successfully introduced among us. Mr. Johnson showed us several large trees that he had transplanted, which we found doing very well. He

adopted the plan recommended by Sir Henry Steuart, and notwithstanding the great difference of climate between this and Scotland, where Sir Henry wrote, by taking up a large ball of earth with them, he has succeeded thus far better than could have been anticipated. Mr. Johnson would show his apparatus for transplanting with pleasure, and give any details required by those who are desirous of making the experiment of transplanting.

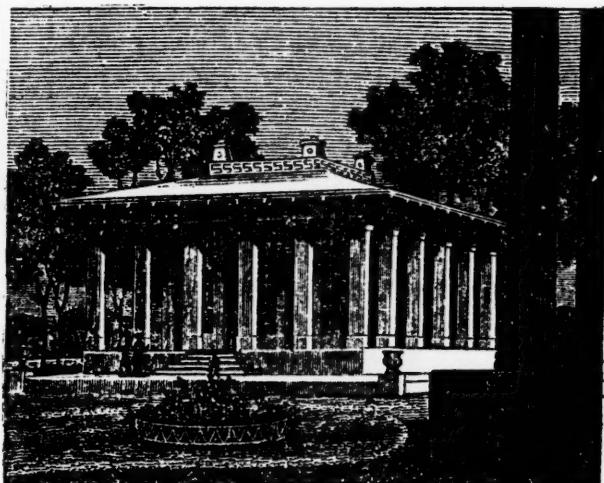
#### TWIN CHICKENS.

WE recollect in our early days, when to possess a fine flock of poultry was the summit of our worldly ambition, of being told that eggs with double yolks would produce twin chickens. But among the numerous eggs that we continued to set from year to year of this kind, we never obtained any produce, nor were our acquaintances more lucky than ourselves; we therefore concluded that it was an "old woman's notion," hatching twin chickens from double-yolk eggs, and gave the matter up in despair, thinking, at least, that our birds were not destined to increase by this two-fold process. That eggs with double yolks will produce twin chickens there is now no longer a doubt in our minds; for in a recent visit to the Casina, the beautiful residence at Hurl-Gate Neck, of G. M. Woolsey, Esq., we saw one of such a pair. It was produced by the care of his factotum of the aviary, a stout, hearty Scotchwoman. Of this there can be no dispute; for, observing that one large egg under one of her setting hens had not hatched the day after all the other chickens came out, she carefully broke the end of the shell and picked it open, when out popped two strong live chickens, which she had not the slightest difficulty in raising. One proved a cock, the other a pullet. The latter we saw, and a fine little bird it is. The cock had been sold to go to market a few days before we visited the Casina; but in describing it, the good woman said: "It was, indeed, a very pratty beast." Now hatching twin chickens may be very common with some, and they may be inclined to smile over the simple tale we have so circumstantially told; but the real fact occurring beyond dispute, being new to us, we have thought it worthy a grave record in our journal. We are of opinion now that double-yolk eggs will produce twin chickens, perhaps as surely as single eggs, and the reason that they do not oftener, is, probably, because the shell is so thick that the chicken can not break it and escape.

The person above, gave it as her opinion that her twin chickens could never have broken through the egg-shell, it was so much stronger and thicker than those of single yolks.

**PIGS BROUGHT UP WITHOUT SUCKING.**—The same good woman showed us a fine litter of seven Berkshire pigs, which she brought up without sucking; their dam having died almost instantly after giving birth to them. We doubt whether any other pigs than Berkshires would have had the sense to live and do well under such adverse circumstances.

#### COUNTRY VILLA.—(FIG. 1.)



ABOVE we present our readers with the view of a country villa, the architecture of which, though rather ambitious, has been much admired, and is somewhat in vogue in this vicinity. We think the style better adapted for the south than the north. There, Venetian blinds, to open and shut at pleasure, would be inserted between the pillars, which would make the piazza a cool place to sit in, and extremely pleasant. The same idea may be adopted at the north in summer, and glass with three feet or so of panels at the bottom, could be substituted for them in winter, transforming the piazza thus into a beautiful conservatory during this dreary season of the year.

#### SHELTER FOR STOCK.

It has afforded us much satisfaction in various excursions which we have made through the country for the past few years, to observe the greatly increased attention that is paid by the farmers to the comfortable shelter of their stock. Many is the barn, with its accompanying stables, and sheds, and yards, we have found—admirable examples of their kind, and approaching as near to perfection as it is possible perhaps to attain. If these could be more extensively copied it would

leave little to desire ; but unfortunately, the principles of comfortable, economical shelter are little studied, and much less practised than they should be.

Many think when they have built their barn, and are able to tie up their stock at night, that everything is accomplished ; whereas, they have only advanced in the first step. To be sure this is the most important one ; yet we hold, in addition to the shelter of the stables at night, open sheds joining on to and running out from the barn, making at least three sides of a square, and enclosing commodious yards, are nearly as necessary for sunning and exercise by day, especially for the younger part of the stock. These may be made very cheap, with board roofs and sides ; and if sawed stuff is difficult to be obtained, with logs rolled up for the sides, and well chinked and plastered with clay, and poles over-laid with coarse hay or straw for a roof. Where timber is scarce, a stone wall, or an earth embankment may be thrown up six or seven feet high, or a double row of rails or light poles can be laid up three feet apart or so, and then filled in with coarse hay or straw for the wall shelter. The only objection to this is, that however poor the hay or straw, the stock, frequently from mere wantonness, will pull it out and devour it ; but after remaining one year, it becomes musty and foul, and they are not apt to do so.

Another great consideration in making sheds and yards, and having them well supplied with litter, is, that by keeping stock confined in them, all the manure, both solid and liquid, is saved ; and in addition to their extra comfort, animals eat less and thrive better than when unprotected and suffered to roam at large. Water for drink, of as warm a temperature as can be obtained from a spring or well, ought to be bountifully supplied in the yard, and in such a manner as not to overflow and wet the ground or litter around.

#### MARSH-MUD.

By the application of marsh-mud mixed with marl, on quite ordinary land, Mr. Carmichael, of Queen Anne's county, Maryland, obtained the past year 1,026 bushels of wheat, weighing 60 lbs. to the bushel, upon 20 acres of land, being nearly  $5\frac{1}{2}$  bushels to the acre. What the quality of his marl was, mixed with the mud, we are unable to say ; though, we presume, it was like much of that of the highest fertilizing qualities which is found in Monmouth county, New Jersey, and is supposed to be the upheavings of the depositories of

the ocean, or in other words, sea and marsh-mud. No better evidence of the great value of marsh-mud could be given than is shown in the production of this great crop of wheat ; and we earnestly call attention to it again, being well satisfied that the value of marine depositories has hitherto been too generally overlooked ; and that thousands of dollars have been paid out for city manure, by farmers near the seashore, which could have been saved had they understood the value of the highly fertilizing qualities of marsh and sea-mud.

#### NEW YORK FARMERS' CLUB.

It has been decided that these meetings shall take place hereafter on the *first* and *third* Tuesdays of each month, at 12 o'clock at noon, to continue till 3 o'clock, P. M., at the Reading-Room of the Repository of the American Institute in the Park. The place is central and commodious, and these hours are, upon the whole, considered the most convenient for the attendance of the members residing in the country. There is no ceremony of admission, nor charge whatever. Every one is free to come and go when he pleases. The Club-meetings are becoming of more interest and importance every month ; and it is especially desired that all who feel an interest in the advancement of agriculture, whether they reside in the city or in the country, will attend, and furnish their quota of information.

At the meeting on Tuesday, the 5th of December, Mr. Schuyler was called to the chair.

Mr. Meigs offered a report, recommending Bommer's method of making manure.

Mr. Wakeman presented a report, containing a Constitution and By-Laws for the Club, which was adopted.

Mr. Carter, from the Committee on Grafts, reported that they recommend a suitable place be provided in this city for the deposite and preservation of grafts and buds, and that a suitable person be appointed to take charge of and to manage the concern ; that one fourth of the grafts be given to the first applicants, and the remainder be sold to pay expenses ; that persons sending grafts send also descriptions of the fruit, and that likenesses of the fruit be taken in wax for preservation. The committee also recommend that a good farm be procured in or near the city, where agriculture and horticulture might be carried on to the best possible advantage, and that the poor be employed on the farm without expense to the city, provided the corporation will give the land.

Dr. Gardner's programme of Agricultural Lectures was read and strongly recommended by General Tallmadge. It was ordered that the Club recommend the lectures to the public, and that the subject of allowing the use of the Hall

of the Repository for the lectures be referred to a committee.

Commodore De Kay offered grafts from trees which bore the premium pears at the last Fair.

Mr. Sewell presented some cuttings of grape-vines.

It was then ordered that the articles presented be mentioned, with the names of the donors, in a record of thanks to be kept by the Club.

A communication on marl-manures and salt, from F. Mortimer Butler, was read. Mr. Stevens said that on Long Island salt as a manure was inefficient—attributable to the presence of sea-air. Colonel Clark remarked on the chemical influence of salt and lime.

Mr. Boswell presented several kinds of apples, nearly all the growth of western New York. He then gave a few particulars on the cultivation of the cranberry and other fruits, which, as he has obligingly offered to furnish us more at length hereafter, we omit what was said at the Club.

Dr. Gardner, General Tallmadge, and Mr. Stevens, entered into some discussion on the use of lime, the gist of which was, that when the ashes of vegetables and plants show lime in their analyses, it is good manure for them; that it is particularly valuable in destroying insects where used; and that it proves much more beneficial on clay than sandy soils. Dr. Gardner then spoke of the value of certain kinds of marl, especially for wheat-crops, when it contained a large proportion of potass. As one instance of its value, he stated that a gentleman in New Jersey not long since purchased a farm there for a trifling sum, and by using marl on it has now made it worth \$100 an acre. He also discussed, with Mr. Stevens, the value of ashes—the latter stating that the farmers on Long Island found very little difference between the effects of those leached and un-leached.

Dr. Field made a report from the Committee on the Long Island Farms, which was read, accepted, and referred to the same committee, to prepare a memorial to the corporation of the city on that subject, viz., employment of the children, &c., in horticulture, agriculture, and growing and manufacturing of silk, &c., in connexion with their education.

General Tallmadge read from the Burlington Silk Record Family Magazine a statement that Great Britain, without producing one pound of the raw material, imports the silk and manufactures it to the amount of \$76,000,000 per annum, and employs in this business more than 400,000 operatives—and pays to the silk-weavers alone little short of \$14,000,000 per annum.

A letter from Dr. Stebbins, of Northampton, on Pongee silk, was read and referred to a committee on silk from mulberry-bark.

Mr. Baker, of Rahway, N. J., exhibited a map of his farm, and stated that on the drained land he obtained, without any manure, 32 bushels of wheat per acre, and the heaviest crop of grass. He drained twenty acres. Mr. Baker exhibited his draining-tools, and explained their use. They are simple, and well adapted to their purpose.

Mr. Wakeman then moved that six subjects be

proposed for discussion, from which the Club shall select for the next meeting.

The second monthly meeting of the Farmers' Club took place on Tuesday, December 19. Forty members were present. Colonel E. Clark was called to the chair.

A letter from J. Torman, Esq., of Cecilton, Md., to the president of the Club, was read. Mr. Torman is eighty-six years of age, and expresses a high degree of interest in agricultural improvement.

A letter from James De Peyster, Esq., was read. He states that he has raised the Egyptian corn for eight years past; it gives 80 to 100 bushels per acre—makes as good cakes as Indian meal or buckwheat, and is as good for poultry and cattle; culture of it strongly recommended by Mr. De Peyster.

A general conversation now took place on birds and their usefulness in destroying insects—Insects in general—the disease of the potato—blight of the barberry-bush, &c., &c., which we regret to say we have not space to report at full length.

Mr. Chapman exhibited some Dorking fowls recently imported by him from England.

*Guano Manure.*—Commodore De Kay stated that he had seen mounds of it on the Florida islands. Colonel Clark thought that the islands on our eastern coast should be examined for it. Dr. Gardner said that fossil guano existed in three localities in the state of New York.

Reports were made by Commodore De Kay on timber, Dr. Gardner on the communication of Mr. Butler, on the influence of sea-water on marshes containing shells, &c.

The Club then adjourned, to meet on Tuesday, the 2d of January.

#### THE PRESENT WINTER.

WE observe that our respected cotemporary, the Prairie Farmer, prophesies the present winter will be more severe than the past was, therein differing from the opinion expressed by us page 267 of our last volume. The forepart of December, 1843, was not near as cold and snowy as the same month for 1842, while the latter part has been the complete antipodes in this latitude of that of last year; being warm, sunny, foggy, and rainy, with a snow-shower or two which melted nearly as fast as it fell; indeed, the month has been of more than average mildness; we are, therefore, correct in our prognostication for at least one third of the time. Our opinions are based upon what we think philosophical principles, although we can not be certain that we are right till we have more experience and observation. These principles will be found explained page, 177 of Vol. I. In return, we should be obliged if the Prairie Farmer would state its reasons why it thinks the present winter will be colder than the last. The

weather is an important matter to the farmer, and it would be a great desideratum if it could be foretold a few months in advance, if only in its general aspect. The barometer we have found a very uncertain guide, either upon land or at sea; and besides, its forewarnings are given only a few hours previous to the actual state of things, thus making the possession of it of little benefit to the farmer. We have no doubt that the weather is directed in advance by fixed laws, and that these will yet be discovered by man. The sacred writings occasionally allude to this subject.

#### DISEASE IN POTATOES.

WE hear many complaints in various parts of the country, of a disease in potatoes, which causes them to rot with great rapidity, and throw off a very disagreeable smell. All those with whom we have conversed on the subject, attribute this disease to the excessively hot, dry weather of June and July, followed by long protracted rains, which set in the first part of August, continuing the remainder of the summer and during the fall; thus checking the root in the first instance, and then giving it a watery, forced growth, so long and late, as to prevent the potato properly ripening. In this diseased state they have been found very injurious fed to stock; occasionally, even causing death. No better remedy is yet found to prevent the spread of the rot among potatoes, than spreading them out on a dry floor in a warm building, so thin as not to touch. But when the disease has broken out in a heap of potatoes, even this precaution to save them often proves abortive, and will scarcely pay for the trouble of doing it.

#### ANNUAL MEETING OF THE N. Y. STATE AG. SOC.

THE annual meeting of the New York State Agricultural Society, will be held at the Society's room in the Old State Hall, Albany, on the third Wednesday, (the 17th,) of January, 1844, at 10 o'clock, A. M.

Persons intending to compete for the Society's premiums on field-crops, essays, &c., are reminded that their statements and essays must be sent to the Recording Secretary, Albany, before the first of January.

Presidents of County Agricultural Societies are also requested to transmit the reports required by the statute, to the Recording Secretary, previous to the annual meeting.

LUTHER TUCKER, Rec. Sec'y.

We hope to see a full attendance at the above meeting, for, in addition to the annual doings of the Society, several interesting and important proceedings are anticipated. Among these, we understand a memorial is to be got up, praying the legislature to extend the \$8,000 now annually giv-

en to Agricultural Societies for five years, to an indefinite length of time. We wish the amount might be increased to \$15,000 annually. It would be scarcely over half a cent for each inhabitant in the state, and is a boon small enough to ask for the benefit of the most important interest of the country.

The geological survey of the state being finished, we think we ought now to have an Agricultural survey; and this should be conducted by men who unite the theory and science with the practical part of agriculture and stock-breeding.

The founding of an Agricultural College or High School should not be lost sight of in the proceedings of the society; and we think it important that a memorial be drawn up and presented to the legislature, asking aid for the same.

Some of the arrangements for the next annual show ought to be altered, especially those of classing animals of distinct breeds together. Let them be exhibited hereafter among themselves. We respectfully suggest also to the society, to appoint a publication committee, whose duty it shall be to revise its transactions and those of the county societies, and cut off the verbiage which it is only a waste of ink and paper to print and bind up in its volumes. Most of the engravings in the last volume were disgraceful to the art, and absolute caricatures of the fine animals attempted to be delineated. We hope we shall see no more such.

The Breeders' Convention have another meeting, at the same time with the State Society, and if they conclude to give a scale of points for the future guide of the American breeder, they should weigh well their proceedings, as a single erroneous move will have a most pernicious effect in the country.

QUANTITY OF BUTTER MADE FROM MILK.—We find that cows vary from one tenth to one thirtieth in the quantity of butter produced from their milk; that is, every 100 lbs. of the milk of one cow, will yield 10 lbs. of butter, while others will only give  $3\frac{1}{2}$  lbs. of butter from the same quantity.

SCALDED MILK FOR BUTTER.—In the Boston Plowman, we notice that Mr. Johnson of Framingham, scalds his milk during the winter season after drawing it from the cow, and then sets it away in the usual manner. The butter made from the cream is as yellow, sweet, and solid, as if made in June. The same thing is done by all good butter-makers in this vicinity, with the same effects as detailed by Mr. Johnson.

VIRGINIA LANDS.—Considerable interest having been excited among our northern people regarding the eligibility of these lands for emigration, we shall feel much indebted by any communications on their localities—present condition—means of improvement within reach, such as marl, lime, peat, and muck, for renovating them—price—climate, &c., &c. We regret to say that our correspondent G. A. C., in our last volume, has been so occupied with settlement, that he has not had time yet to forward his promised communication. But there must be gentlemen enough at leisure, in the good Old Dominion, who will gladly furnish

us information on these interesting topics. We are quite confident that parts of Maryland, Virginia, and the upper country of the Carolinas, offer as great inducements for settlement to our northern people, as any sections of the United States; good lands there, with more or less improvements, may be had from \$5 to \$10 per acre, and farms with buildings, from \$15 to \$30. Some lands may be bought as low as \$2 per acre. The climate is so mild, that stock need be foddered only two to three months out of the year. General Washington, in a letter we believe to Mr. Sinclair, asserted that sheep, even no farther south than Mount Vernon, would usually pick up a good living from their pastures all the year round.

**OIL DESTRUCTIVE TO PLUM-TREES.**—Mr. David Tomlinson of Schenectady, informs us, that two of his neighbors lost quite a number of valuable plum-trees the past year, by applying oil to caterpillars in the spring, to destroy them, as they had seen recommended in some publication.

**BOMMER'S PATENT METHOD OF MAKING MANURE.**—We are repeatedly asked about the above method of making manure, and whether the patent is worth purchasing. We have the best authority for saying, that the only patent granted, is to Messrs. Baer & Gouliaet of Baltimore, the improvement claimed in which is this:—

“What we claim as our improvement on Jaufret's method of forming manure, by the rapid fermentation of vegetable fibres, is, first the forming of the said vegetable matter into piles or heaps, without its being *first immersed* in the prepared lye, and the subsequently saturating the same by the *pouring* on the lye in the manner set forth.

CHARLES BAER,  
JOHN GOULIAET.”

The *lye*, the main thing above, is *not patented*. Mr. Bommer's “patent” is simply this, and no more, viz: he has purchased of Messrs. Baer & Gouliaet the right for some of the states, of making manure-heaps as set forth in their patent above. The public believe Mr. Bommer has a patent, and they dare not use the ingredients without paying the sum demanded for the invention. Whether this is worth ten dollars, every one now must judge for himself. As for Mr. Bommer's “new process,” as he terms it, of making manure, the general principles of it have long been practised in France, and pretty much all that is valuable in it will be found in an extract from the Farmers' Mine, by Mr. Heermance, under the head of “New Method of making Manure,” page 164 of our last volume. Mr. Bommer's method is undoubtedly a good one, and if he gave it in a book at a reasonable price, it would be worthy of purchase. By paying 75 cents for the Farmers' Mine, the public will get about as much useful knowledge as they can obtain from the *patent* of Mr. Bommer for \$10. We should not have taken any notice of this subject, except to answer frequent inquiries, and did we not perceive how much public attention has been drawn to this *patent right*, by the communications of Mr. Bommer, which have recently appeared in several of our agricultural papers.

**CHANGE OF THE QUALITY OF FRUITS AT THE WEST.**—Our excellent friend John Fitz, in the Prairie Farmer, informs us that several kinds of fruits which are considered first rate here, become worthless on being transplanted to the west. This we know to be a fact from our own taste and observation in those parts which we have visited. He recommends growing naturals there, and selecting from the choicest varieties when the fruit appears. This is a capital idea, and if carried into effect, Illinois may one of these days send us seedling fruits equal to any of our own choice productions. There is nothing like cultivating the internal resources of one's own country, and no one is stronger in this principle than ourselves.

**SHORT-HORN CATTLE.**—We meet with so many erroneous articles lately in the papers, on the history and improvement of these celebrated animals, that it is our intention to commence in our next a series of numbers on this subject, wherein we shall give a fuller, and as we hope, a truer and more complete account of them than has yet appeared in print.

**INDEX TO VOLUME II.**—This index was printed on the same sheet as the last No. of Vol. II., of this periodical. It is paged by itself, and in the folding of the number, occupies the eight middle pages. It is only necessary to cut open the leaves as usual, when these eight pages of index will be found detached by themselves, and should be placed in front of the volume when it comes to be bound.

**VOLUMES I. AND II. OF THE AMERICAN AGRICULTURIST**, with tables of contents complete, are now bound and ready for delivery. The farmer's library will be incomplete without these instructive and highly entertaining books. They are more elegantly got up than anything of the kind ever issued from the American press.

**LONG ARTICLES.**—We have two or three articles in the present number, of considerable length, but let this be no objection to our readers in perusing them. There are subjects occasionally which must be treated at length to do them proper justice, and to divide them into different numbers, would lessen their interest. We do not design our periodical as a mere ephemeral, to be read on its day of issue and then be thrown aside; but we mean to make it a work of permanent value, worthy to find a place for future reference in every intelligent farmer's library.

**DEFERRED ARTICLES.**—Tour in England, No. 17, Sketches in the West, No. 3, and several other articles are deferred till our next, we wishing to make as much room as possible for correspondence.

**Payments for Volume Third.**—It will be recollected that our terms are cash in advance; all those, therefore, who expect the future numbers, will please remit through the Post-Masters. Agents in arrears will oblige us by forwarding all dues.

## ORIGINAL CORRESPONDENCE.

## DEVON CATTLE.

THIS valuable and interesting race of animals, in their *purity*, are but little understood in the United States. The fine red cattle of New England, a class almost sufficiently distinguished to warrant their assuming a local cognomen of their own, are supposed by many to be descended from the ancient Devons, so near do they resemble them in many valuable characteristics; and no doubt this opinion gathers weight from the fact, that the first settlers of Plymouth, in Massachusetts, and the adjacent country, sailed from Devonshire, in England, from which it is concluded that the Devons were the original stock brought out with those early adventurers. This, however, is but mere inference, as the Devons, in their purity, are not widely spread through all Devonshire. Still the best native cattle of New England show evident marks of consanguinity with them; and we may at least suppose, that from the many importations of valuable foreign stock made from the counties of Hereford and Devon, within the last fifty years, the best New England cattle have obtained a strong dash of those valuable breeds. Indeed, the impression is almost universal among those not quite well informed in the matter, that *red* cattle, generally, are Devons, although they engross all manner of style, fashion, and quality. Than such vague supposition, nothing can be more untrue; and all this "public opinion," or "*indefinite notion*," to the contrary, the true North Devon is as distinct in his style and character as any race of neat cattle whatever.

**ORIGIN.**—The Devon is styled by some of the best English cattle authors as an *aboriginal* breed, and is supposed to be a race as old as the Roman invasion of that island, and from the earliest dates, the clean-limbed red cattle of Devon and Cornwall have been celebrated in British annals. For the past century, since the general improvement of their agriculture has attracted the attention of the English nation, the peculiar ancient breeds of cattle have received especial care. Among these, the Devons have been conspicuous; and skilful breeders, selecting from the best forms and blood of this beautiful race, by the application of correct and scientific rules, have brought them to a perfection excelled by no other class of British cattle.

Here let me digress for a moment to remark upon the strange and absurd *notion*, for it is nothing but a notion, that so many of our Americans have imbibed regarding *improvement* in breeding domestic animals. It seems to be supposed by these calculating people, that all which is excellent to a high degree in the present improved farm stock, has been brought in by a "foreign cross," or by the peculiar *hocus pocus* of some "wizard" breeder, through whose magic wand these wonderful improving influences were brought about, instead of the practice of certain, true, and inalienable physiological principles, which alone constitute *improvement*. To those

*simply*, and to the *pure* blood *only* of the race under process of improvement, have the master spirits in breeding succeeded to a triumphant degree. It is high time that all this "twaddle," for I can call it by no more appropriate name, about "foreign crosses" was exploded by persons pretending to any sense. Why, where existed the great excellence of these "foreign" animals that men so successfully used in this "happy cross;" and where are now these immaculate paragons that so improved our present peerless Devons, Short-Horns, and others?—or do they go upon the wonderfully sapient principle that two defective animals of different blood and breeds, when crossed upon each other, will produce an excellence in figure and quality superior to both, and which the proper cultivation of neither, in itself, would produce? Out upon such absurdity! We have no evidence of highly valuable and permanent improvement being made upon any breed of domestic animals by the use of these, which were not "native, and to the manner born," unless of a race superior to the one sought to be improved. Such were the progenitors of the magnificent Short-Horns of Northumberland, Durham, and Yorkshire; the massive and stately Long-Horns of Lancashire, and of Ireland; and the beautiful, active, and vigorous Devons of the south of England, long before those eminent breeders, the Collings, the Bakewells, or the Somervilles, were known; and in no instance have "foreign crosses" with inferior breeds been adopted, however plausible they appeared at first, but, in the long run, have been condemned and discarded by all thoroughly scientific breeders. I do not pretend to say, that, for certain purposes, domestic animals may not be mixed in blood to great benefit for adaptation to certain soils, climates, and purposes. This they most certainly can; but with the present imposing array of thorough-bred animals before us, none but a *desperate* and clearly *Utopian* advocate of improvement will attempt to create a new and a standard breed, by *sinking* either of the present highly established races into one of a baser or degraded kind. It should, therefore, be the aim of every breeder to *level up* his domestic stock as near perfection in the peculiar characteristics required as possible, without seeking to degrade that which is already good by an association with downward tendencies. But to the Devons.

It is not my present purpose to discuss how, or by what means the improvement of these, or any other of our valuable domestic animals have been made by the skill of their breeders—this belongs to an essay of another kind; suffice it to say, it has been done in this ancient race to a degree certainly equal to that attained with any breed whatever, and without resort to any other blood, and it may without hesitation be asserted, that no race of animals in existence show more distinct, permanent, and long-established blood-like qualities than the Devon.

**DESCRIPTION.**—In size the Devon is medium, and compares with the native cattle of our country when lean; but with a greater aptitude to take on flesh when fed, and a much higher de-

gree of proof when slaughtered. The head is delicate and short, with a broad and slightly indented forehead; a high, gracefully upturned, yellowish horn; a clear, prominent eye, enclosed in an orange-colored ring; neat and thin in its face or chaps; a small, delicate muzzle, of a clear orange or slightly-mottled color; the neck finely set on, and originally throaty, with a considerable dewlap reaching to the brisket; but in the best-improved animals of the present day, clear, and without superfluous skin. The shoulder is slanting like that of the racehorse, giving him great activity, and set on to the ribs with the smoothness and beauty of a deer, but well spread at the elbow, developing a deep and wide chest, with a sufficiently projecting brisket. The arm is broad, tapering gradually to the knee, with a leg below of the straightness and delicacy of the blood horse. The ribs arch broadly out from an even back, leaving great compass of body, with a full and deep flank; the loin is broad and level; the hips wide, high, and well spread, giving an amplitude of carcase extraordinary for its *apparent* size; the rump long, with deep heavy quarters; the buttock round, and projecting, running down to a delicate gambril joint, and terminating in a hind leg of surpassing neatness and symmetry; the tail is set on high, and in a horizontal line with the back, of the exact shape and gradual taper of a *drumstick*, terminating in a thick brush at the extremity, with a moderate tuft of white hairs; the skin is of medium thickness, and when on a well-conditioned animal, unsurpassed in handling; the color is a deep blood or mahogany red, with an occasional white udder, or slight white strip under the belly. These, the world over, are the true characteristics of the pure North Devon, and so deeply are these qualities imbodyed in the race, that a good judge would as quickly detect a spurious cross in their appearance, as if in a thorough bred Arabian or blood horse. The Devon has, indeed, by partial writers, been styled the Arabian of neat cattle.

UTILITY.—As an *economical* animal, the Devon may be classed under three different heads.

First, as a working ox. In this important department of American agriculture, nothing can compare in activity, beauty, and close matching, with the Devon. They seem constituted emphatically for the yoke. Their docility, honesty, and vigor, are proverbial. Although not attaining the heavy size of the full-grown Hereford or Short-Horn, on the medium and lighter soils, a pair of Devon oxen annually plow as much land, and as well, too, as an ordinary pair of horses. High crosses of the Devon and native American cattle have frequently come under my observation in working oxen, and in both performance and appearance, nothing could exceed them. They are sufficiently heavy for all useful farm-work, possessing in an eminent degree the horse-like qualities of superior strength, speed, and bottom; and when at maturity, are unrivalled for the stall and the shambles—taking on fat with a facility that no other animal can surpass. A farmer wishing to breed working oxen or steers,

has only to select his quota of native cows for that purpose; the finer in form the better, but it matters little what *color* they be, so that their *quality* be good. Let him select a well-bred North Devon bull, and cross upon these cows, and ten to one, so deeply established is the character of the race in the bull, every individual calf will be a mahogany red in color, with a clear, yellow, upturned horn, and possessing such decided Devon characteristics, that, if steers, at three years old, dead matches could be made of any couple in the herd. To such farmers as use ox-labor on their farms, (and were our working cattle of a better quality, it would be much more extensively practised,) it is unnecessary to speak of the enhanced value of raising a variety so easily matched, of such uniform beauty in appearance, and of great activity in their labor. It is almost superfluous to remark that a still higher cross, to three fourths, seven eighths, or even thorough bred, will give an increase in value for all useful purposes; and when it is known that this class of cattle at six years old will girth behind the shoulders six and a half to seven feet and upward, in fair working condition, all cavil will be silenced.

Second, for the shambles. At the Smithfield market, in London, the flesh of the Scots and Devon cattle hold the first rank; and with a beef-eating nation like the English, an appeal from their judgment will scarcely be entered. The flesh is beautifully marbled, or intermixed, the fat with the lean. Fed side by side with others in equal condition, when stalled, no animal has exceeded them in accumulating flesh in proportion to the quantity of food consumed. In feeding, they have been thoroughly and severely tried with the Short-Horn, the Hereford, and other breeds of England. They are early at maturity; fully so at six, and profitably fed and slaughtered at five, four, and even three years old. To illustrate this part of the subject, I submit a few out of a long list of weights both in this country and in England.

In 1831, a pair of three-fourths bred Devon oxen, (their grand dams being native Connecticut cows,) bred by Messrs. Hurlburt of Winchester, Connecticut, worked from steers until six years old, and then fed fifteen months, were slaughtered in New York, weighed as follows:—

Near ox, Carcase 1,438 lbs.

Hide - 117 "

Tallow 175 "

Profitable weight 1,730 lbs.

Off ox, Carcase 1,528 lbs.

Hide - 115 "

Tallow 213 "

Profitable weight 1,856 lbs.

These were closely matched, and of a deep red color.

Mr. E. P. Beck of Sheldon, Wyoming county, N. Y., had a thorough-bred stag, 3 years and 10 months old, kept well till four months previous to being slaughtered, which was in March, and only stall-fed for about three months. His profitable

weight was 1,200 pounds, hide and rough tallow included; the latter was over 100 pounds.

Mr. William Garbutt of Wheatland, Monroe Co., N. Y., had a dry, thorough-bred cow, nine or ten years old, turned out to grass in the spring, where she run all summer, and fed only about two weeks before her death. She died in the pasture with murrain. Had 160 lbs. rough and kidney tallow. None of the meat was tried.

Mr. Henry Thompson of Baltimore, had a thorough-bred cow which ceased to breed. She was pastured on grass through the summer, without extra feed, and slaughtered, weight as follows:—

Carcase	-	-	715 lbs.
Tallow	-	-	156 "
Hide	-	-	74 "
Head and tongue	-	-	31 "

Profitable weight, 976 lbs.

In 1838, I had a fine Devon cow twelve or fourteen years old, which met with an accident, disabling her from further breeding. She was turned out to a fair grass pasture in the spring; was fed on nothing else, and slaughtered in the fall. She was a most beautiful creature in shape, and the fattest grass-fed animal I ever knew. Her net weight was a trifle over 800 lbs.

From registers of cattle in Smithfield market, published in the British Farmers' Magazine, I extract the following weights of steers, slaughtered there:—

One 5 years 11 months old, dead net weight 1,593 lbs. One 3 years 7 months old, dead net weight 1,316 lbs.; rough tallow 160 lbs. One 3 years 10 months old, dead net weight 904 lbs.; rough tallow 128 lbs.

Count De Gourcy, an intelligent French farmer, who lately made an agricultural tour in England, remarks that the late Earl of Leicester's Devon steers, kept on his Holkham estate, at four years old, when slaughtered, weigh 1,000 to 1,200, and even 1,400 lbs.; and that the Duke of Norfolk's (near Bury in Suffolk) Devon steers, weigh full-grown, 900 to 1,000 lbs. It may here be remembered, that by the improved breeding, the Devons are matured for the shambles one to two years earlier than formerly. From four to five years of age are now considered fit periods for slaughter.

It thus appears that the Devons are earlier grown, and show a greater average weight than the common cattle of our country; and, from their compact forms, fine handling, and light offal, that they will take on flesh with greater rapidity and less food, there can be no questioning. The quality of Devon beef is highly superior. I have had slaughtered from my own stock three animals of Devon blood mainly, grass-fed only, and in a house-keeping experience of some fifteen years, I never had so good beef, either fresh or salt.

Third, as milking cows.—On this very important item of excellence, I regret exceedingly that my information is so meager. The *thorough-bred* Devons in America are comparatively so few, and so little pains have been taken to test their milking qualities, that I have been unable to gain little exact intelligence on the subject—what I have, however, is submitted.

Mr. Thompson's imported cow "Sukey," (or Flora,) of Baltimore, gave 22 quarts, beer measure, (about 25 quarts wine measure,) of milk per day, in the months of June and July, 1831, on grass only. This milk was of the richest quality, and produced superior yellow butter.

Mr. E. P. Beck of Sheldon, before mentioned, exhibited at the late State cattle-show, at Rochester, two fine thorough-bred Devon cows in milk. They, with another not exhibited, 4 months after calving, on quite ordinary pasture, in a dry time, a few days before driving to the show, yielded as follows:—

No. 1, 18	quarts per day, beer measure;
No. 2, 20	ditto ditto;
No. 3, 22	ditto ditto; equal to about 69 quarts wine-measure. This milk was all of rich quality, and made excellent butter.

George Patterson, Esq., of Maryland, an observing and scientific breeder, who owns decidedly the largest and finest herd of pure Devons in America, some 60 or 70 in number, remarked to me, that his cows were better milkers, and yielded more butter on the average, than any others he ever kept. His stock is descended from some of the best animals of Mr. Bloomfield, in England, the principal breeder of the superior herd of the Earl of Leicester, on the Holkham estate. Mr. B. once publicly challenged all England to milk 20 cows of *any breed* against his herd. The challenge was not accepted. This is no proof, however, that his cows could not be beaten, which they undoubtedly could, as the Short-Horns are acknowledged, out-and-out the best milkers in England.

Count De Gourcy states, that Mr. Bloomfield's cows averaged each 4 pounds of butter per week, the year round, which is equal to 208 pounds a year; a large yield. The Count also mentions, that another tenant of the Earl of Leicester prefers Devon to Ayrshire cows. They yielded him more milk and butter. I merely state this last fact as written, meaning no disparagement to the Ayrshires, believing them valuable milkers.

Added to all this, the Devon cow has in England long held a distinguished place as a dairy animal of high order, by the best farmers, and maintains a rank in many localities, second to none others whatever.

In conclusion, I give you a letter of William Garbutt, a man of facts, and of close observation, who obtained his fine Devon cattle many years since from the herd of the late Hon. Rufus King of Long Island, sent him direct, by the late Earl of Leicester, then Mr. Coke.

*Wheatland, Nov. 6, 1843.*

L. F. ALLEN, Esq.—My Dear Sir: I fear that I can not give you the information wished for, so particularly as you desire, in relation to the Devon cattle. Owing to the hardness and dryness of my home-farm, I found it very inconvenient to raise stock to any amount, and in 1835 I purchased and stocked the Sheldon farm; since then I have paid very little attention to neat stock. I have, by experience, become sufficiently satisfied relative to the value of the Devons for agricultural purposes, as adapted to this section, say western New York;

but have not been sufficiently exact, as to give in quarts and pounds the results of their milk and butter products.

I can repeat what I have frequently stated, and know to be true, that the Devons, as a breed of neat-cattle, on the whole, are not excelled by any, for labor, beef, or dairy, in *quantity*, or *quality*, in proportion to the food they consume.

They cross well with our native cattle; better than any other of the imported animals, and wherever the cross has been tried has almost invariably produced good stock. I have been in possession of them nearly twenty years, and have raised many valuable animals, and with but very few exceptions, it is rare to find a poor animal of the breed, that has had any chance at keeping. I always fed uniformly well, but never extravagantly, in order to produce a great size. One cow suckled two calves four months; the calves were then fed with roots or mill-seed, and straw, until spring, so as not to lose flesh, *but not to improve in condition*. Straw and roots have generally been my winter forage, and clover their summer pasture.

The oxen are sufficiently large for labor, and will weigh from 1,000 to 1,500 lbs., grass fed. They are very active, docile, and easily made tractable; are remarkably good travellers, hardy, and easily kept. The cows will weigh from 600 to 800 pounds, grass fed, and give a fair quantity of very rich milk. Their beef is excellent, being very fine, and well mixed with fat and lean, surpassing any other breed in that respect. They fatten quick, and always prove well when slaughtered.

The bulls, generally, are smaller than the oxen, and inferior in beauty, but the proof of a good sire is the value of his stock; and there are no other cattle which will so generally give the color, sprightliness, and general features of the breed to their offspring, like the Devon bulls.

Mr. J. A. Frost of Rochester, who perhaps has bought and slaughtered for the past 20 years, more cattle than any other man in western New York, gives it as his opinion, that the Devons are the most valuable cattle in this country for beef. I am glad to learn that you have resolved to let the public know their true value; but you must be careful not to over-rate them, or it will produce a reaction. When we state facts relative to any particular variety of stock, we should mention the poor, and the middling, as well as the good ones, for extraordinary animals are rare in all breeds. One very valuable trait in the Devons, is their general uniformity. There is one striking fact which is well known in this section; that wherever there are any Devons to be found, the eastern buyers are certain to pick them up as soon as the owners will part with them.

Yours most sincerely,

WILLIAM GARBUTT.

From all this evidence, it will be seen that the Devons are distinguished as a highly valuable race of cattle; that on light and medium soils, where laboring oxen are required, and an active, hardy, and *deep-colored* animal is preferred, they are superior to any other breed known. Let me

be distinctly understood. I pretend not to place them in competition with the noble and unrivalled Short-Horns, as best adapted to the richer soils, and more luxuriant pastures of the United States; but aside from these, and even there too, they are every way a most desirable and beautiful class of animals. I have seen the Devon crossed with various other breeds; but the most beautiful and luxuriant admixture is that with the Short-Horn. This is the only alliance of the latter, with another breed, where the exaltation of the one did not seem a degradation of the other. The cross is remarkably rich, blending the fine points of both in perfect harmony. In a visit made a year or two since to John A. King, Esq., of Jamaica, Long Island, who inherited the Devons left by his father, the late Hon. Rufus King, I saw a beautiful *white* cow, with all the characteristics in shape, and proof, even to the clear upturned horn of the Devon, whose sire was a Short-Horn bull. Her dam was one of Mr. K.'s Devon cows. He stated to me that of all cows which he ever kept, none in their good qualities, ever equalled the Devons, and their descendants from a Short-Horn cross.

Lemuel Hurlburt, Esq., of Winchester, Ct., who has kept the Devons since 1821, which he obtained of the late Mr. Patterson of Baltimore, asserts that the crosses of his bulls with the native cows of his neighborhood, have added greatly to their value; and his long experience has satisfied him of their great excellence.

Within *my own* knowledge, not more than half a dozen importations of Devons have been made into the United States by different individuals. In 1817, Messrs. Patterson & Caton of Baltimore, received several choice cows, and bulls, from Mr. Coke's herd. Shortly after that time, Mr. Coke also sent to Mr. King of Long Island, a bull and several cows.

In 1825, Mr. Henry Thompson, a merchant of Baltimore, imported a bull and two cows, very choice animals, bred by Mr. Childs of Bewdley, in Devonshire. Some of the descendants of this stock were afterward owned and bred by George Patterson, Esq.

In 1839, Mr. Francis Rotch of Butternuts, Otsego Co., N. Y., imported two Devon heifers from England, which are now in that neighborhood. In the same year, a Mr. Vernon imported into Genesee county, in this state, a bull and two heifers, bred by Messrs. Davy of North Molton, Devonshire. The heifers, unfortunately, both died about a year after their arrival, with the foot-ail, and their only descendant is a heifer, now two years old, which, together with the bull, are owned in that county.

Other importations may have been made, but they are beyond my knowledge; and although this valuable stock is well known and highly appreciated in their native country, where choice animals for breed are now sold at prices ranging from 30 to 100 guineas, (\$150 to \$500,) the Americans have been slow to estimate their worth. So high a character have the Devons achieved in England, that at the great shows of the Royal Agricultural Society, they are allowed a distinct class by themselves, where they take rank side-by-side with the other favorite and most celebrated

breeds. What higher merit can be awarded them? Costly likenesses of many prize Devons have been taken by the first cattle-painters, which are inserted with great truth and spirit on steel plates, in the London Farmers' Magazine. The liberal and enterprising breeders of our country have usually preferred the more imposing Short-Horns, which have almost entirely engrossed their attention, to the exclusion of all others. With myself, although for many years a breeder, and an unwavering advocate of the Short-Horns, of which I have a considerable herd, yet I have long been an admirer, and by a close observation for many years past, am convinced of the positive value of the Devons in extensive sections and localities of the United States, and particularly in the light pasturage regions of the South. I have acquired a promising embryo-herd from the best materials in the country, and am determined to disseminate, so far as lies in my power, this valuable race into those sections, where the Short-Horns, for any reason, are not preferred. Of the merits and true character of these animals, but a small portion of our cattle breeders are aware; only now and then an individual *really* knowing what a true Devon is. They are, however, rapidly growing in public favor, and probably but few years will elapse before they will become widely distributed over the land.

L. F. ALLEN.

Black Rock, Erie Co., N. Y.

#### ORIGIN OF CHESS.

I SEE in your paper a subject under discussion, which has occupied a place in most agricultural journals in years past, viz: the origin of Chess. It is not new to see the subject in competent hands either; for gentlemen on both sides have evinced extensive observation, and a good degree of scientific research. The *facts* which have come under my own observation, are rather of a negative character, and can only be classed with that kind of evidence called *circumstantial*; but this, poor as it is, may lead to conviction, if there is enough of it.

If chess is the original of wheat, or oats, or both, as Mr. R. L. Allen would have us believe, or the offspring of either, or both, is it not a little singular, that not enough of the article grows in the state of Maine to cause one to hear it mentioned once a year? I have been a grower of wheat and oats for more than twenty years, and never saw it on my farm *but once*. I think I might seek it in the whole county of Somerset without finding half a pint. Is it because we sow spring grain? Oats is a spring grain in Wisconsin as well as here. Why should I never have seen or heard of it in oats in forty years, all which time I have been conversant with that crop? I can scarcely believe it is for want of observation, because I have been closely investigating a popular error, or what I think such, if this be not one, viz: the change of barley to oats. The belief in this *metamorphosis*, is about as prevalent in the *east*, as the other is said to be in the *west*. Still it is easier to talk about it, and tell what our friends say about it, than to see it.

I have often been told, "if my barley is fed off, the stalks will produce oats." For nearly every year of the last ten, I have had oats and barley adjoining my sheep-pastures, as I have been alternately cultivating my pastures with white and green crops. The lambs will every year get through the fence and crop some of the grain; and I have been on the *lookout* for oats on my barley-stocks, but have never seen them.

"For optics nice it needs, I ween,  
To see such things as can't be seen."

But do I not see many heads of oats where the crop has been fed? Yes, certainly, and for the plain reason, that oats, when fed off at nine or ten inches high, tiller amazingly, and *my* barley will not, under like circumstances, head at all. I never have, with all my care of sinking my barley in strong brine, *wholly* divested it of oats. Hence the deceptive appearance.

A few years since we had repeated statements in one of our agricultural papers, of potatoes (small ones I presume) *originating* on a stem of the common gilliflower. Whether this potato proved a valuable variety, I have never learned; but there are several persons in a neighboring town as confident they saw this phenomenon, as was Cotton Mather, that witchcraft existed in Salem.

I do not write to explain or deny any fact stated by Mr. Allen; for I do not gather *certainly*, that he *saw* either of the samples stated, except the oats in Wisconsin, and I would put it to the ingenuous candor of that gentleman to say, if it was as he thinks, *if it does not prove a little too much?*

JAMES BATES.

Norridgwock, Me., 22d Nov., 1843.

#### CULTURE OF COFFEE.

I HAD almost forgotten the promise I made during our pleasant intercourse at my residence last summer, to give for the Agriculturist a short account of the cultivation of coffee and other products in the northern sections of South America, and the province, or rather state of Venezuela. At the time I traversed that country, I did not feel that deep interest in things pertaining to the cultivation of the soil, which would induce minute observation of all that related to the products of the country. My observations were more of a general nature, and were directed to the cultivation of coffee, cocoa, and indigo, as subjects of interest to a traveller, and connected intimately with foreign commerce.

The luxuriance of vegetation in those valleys, which lie between the various branches of that great range of mountains which passes through the South American continent, far surpasses all that we meet with in this country. The valleys of Caracas and Aragua, consist of a deep, rich, black loam, equal in fertility to the most productive portions of the Mississippi or its tributaries. Throughout these, and on the sides of the adjacent mountains, are the coffee plantations, scattered here and there, small cultivated spots in the immense tract of neglected and uncleared waste. I

shall not soon forget my first impressions of a coffee-estate, as I caught sight of it in the distance, or when actually within its precincts.

We were on Las Vueltas or the back of the mountain, and descending by a gently sloping zig-zag mule-path, shaded by lofty forest-trees on our left, and on our right a steep precipice. Far below this lay the city of Caraccas as on a map, its spires glittering in the sun, and its surrounding estates stretching many miles along the beautiful and cultivated valley. On the winding road to the city, were many hundred mules with their burdens, carefully picking their way down the steep sides of the mountains. In the distance was seen the Silla of Caraccas, 10,000 feet above the level of the sea, while all along the valley, the verdure and harvest hues were truly gorgeous. The sugar-cane, the changeable tints of the waving barley, the green maize, the orange groves, and above all, the distant beauty of the coffee plantations, contributed to heighten the effect of a scene to me exceedingly attractive, and one well worthy the pencil of a master hand. Many other things conspired to make my first distant view of a coffee plantation with its accompanying scenery, very interesting, yet a close inspection was needed to appreciate its beauty.

Just before entering the city of Caraccas, we passed a large and imposing entrance, with a patriotic inscription overhead. Finding it to be a coffee estate, we dismounted from our mules, and rambled through it. Imagine an extensive grove of trees, the branches of which, commencing about fifty feet from the ground, formed a large, compact, umbrella-like head, with dark-green, thick, glossy leaves, similar to those of the Cape Jessamine, and covered with brilliant scarlet flowers the size of the hand. These trees called the bucaris, are planted about thirty feet apart, their leafy heads forming a dense canopy impervious to the rays of the sun. The coffee-tree is planted under these about ten feet apart, in straight rows. At two feet from the ground the branches radiate horizontally from the main stem, which is allowed to rise to the height of 8 or 9 feet where its growth is stopped by splitting the top, and placing wedges in it, the fruit being better and more abundant where the growth of the tree is thus retarded. The tree was now in its full bloom and ripeness, exhibiting conical forms of about six feet in diameter, with leaves of a glossy green, acuminate, and slightly indented. The fruit grew from the bark about the size and shape of a cranberry. The branches were loaded, like the arms of an oriental beauty, with beads of every tint. Some with the beautiful white flower, similar to our white jessamine, in continuous clusters on the top of the horizontal branches; others with the fruit of every shade, from the palest green to emerald, then the rose, the crimson, and last of all a chocolate-brown the sign of maturity. When to the refreshing shade and stately appearance of the bucaris, and the graceful foliage of the coffee-tree, is added the exceeding fragrance of the coffee-flower, frequently perfuming the air for half a mile or more, the thick velvety turf beneath them, studded with flowers of the most gorgeous colors, and adorned

with little rivulets, deemed necessary to convey moisture to the roots of the plants, nothing can be more beautiful. As I rambled through the rows of coffee-trees entirely protected from the sun, with the velvety turf beneath my feet, and birds of the most brilliant plumage singing sweetly over my head, I thought that no crop or plantation whatever could possibly compare with it in beauty, and that if the cultivation of the soil here on Long Island was attended with such pleasures, mercantile life would find but few votaries. Nowhere else, however, but in this valley and that of Aragua, did I see the plantations shaded by that beautiful tree, the bucaris. It requires too long a period to obtain the tree of sufficient size for shade. Throughout the West Indies, in Porto Rico, Hayti, Jamaica, and Cuba, I observed that they generally planted the banana or plantain on the sunny side of the coffee-tree, to mitigate the heat of the sun by its glossy, pea-green leaves of 6 to 8 feet in length.

When the berry becomes of a chocolate-brown and is quite ripe, it is picked by women or young persons. It is then carried to a platform which covers sometimes an area of several acres, and is made of plaster and lime, very hard and dry. The berries are then spread out in the sun to dry. After being thus dried, they are placed in a mill similar to a cider-mill, where a heavy wheel passes over them and takes off the husk; it is then cleaned by a common fan, and placed in bags for exportation.

The cultivation is simple, and I see no reason why it could not be advantageously introduced in our southern states. It flourishes well on the Jamaica mountains, at a height above the sea, where the climate is quite as cold as South Carolina, Georgia, or Louisiana. The labor is very light. The tree when once planted will bear thirty, and sometimes fifty years, with scarcely any attention. The preparation for market is very simple, and can be performed by children. It would be equally profitable with cotton, and I think far more so than either rice or sugar, without the sacrifice of health attending the cultivation of the former, or the terrible using up of flesh and muscle demanded by the latter. The only point to be ascertained is, whether it will bear the climate of our southern states; if so, there can be little doubt that for productiveness and facility of culture, it will be preferable to any other southern crop. I hope some of the southern readers of the *Agriculturist* may be induced to give the coffee-tree a trial, and report the result. It would be a very valuable addition to our agricultural productions for home consumption, and as an article of export; the demand abroad is almost unlimited.

There are many articles of foreign produce which can without doubt be profitably cultivated in this country. We have every variety of soil and climate, and there is no reason why we should resort to other countries to obtain articles for the cultivation of which nature has provided us with abundant resources. The *Agriculturist* in striking out a new path for itself, and in which it has met with unusual success, has given this subject, I am aware, much attention, and many able articles have recently appeared on the cultivation in this

country of madder, sumach, indigo, &c. I hope the subject may not be given up, but that every possible effort will be made to increase our agricultural wealth by the encouragement and introduction of new products.

S. B. PARSONS.

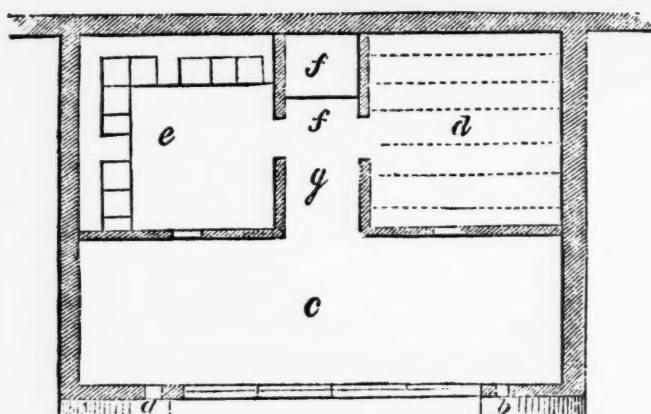
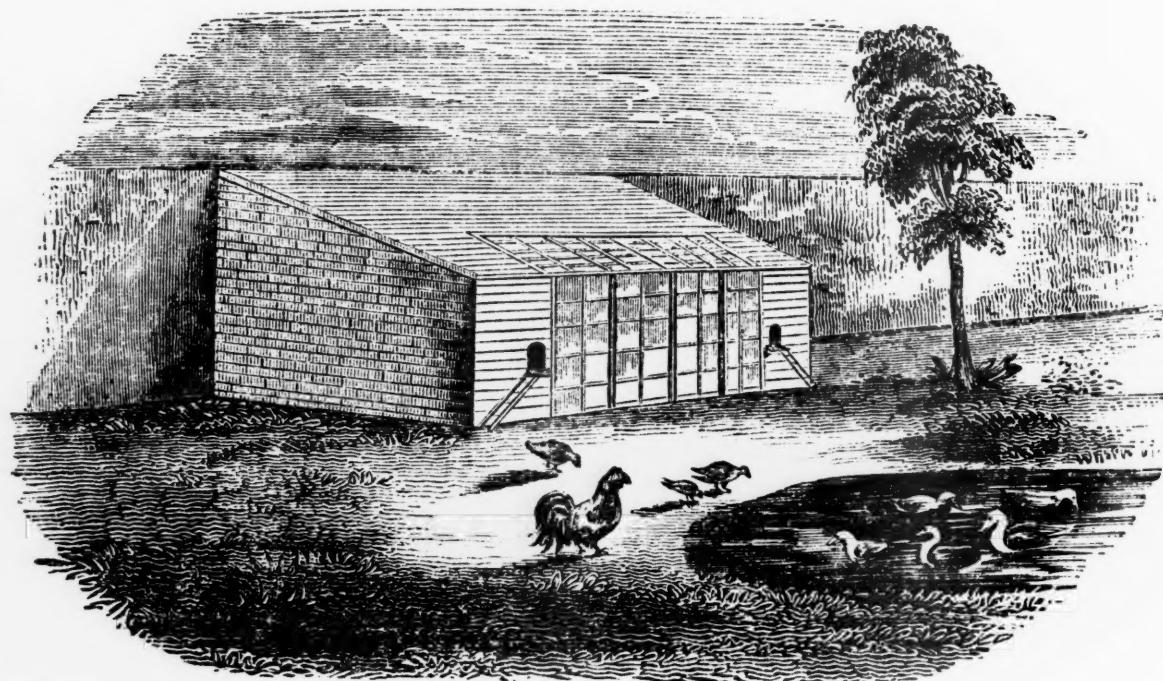
*Commercial Garden and Nursery,  
Flushing, L. I., 11mo. 23, 1843.*

#### AVIARY, OR FOWL-HOUSE.

AGREEABLY to your request, I send you herewith a view of my fowl-house. The accompanying plan and reference render a particular description unnecessary. The north, east, and west sides of the house are of brick; the floors are of cement to keep out rats.

Fowls will not lay well in winter unless they

#### AVIARY, OR FOWL-HOUSE.—(FIG. 2.)



Ground Plan.—(Fig. 3.)

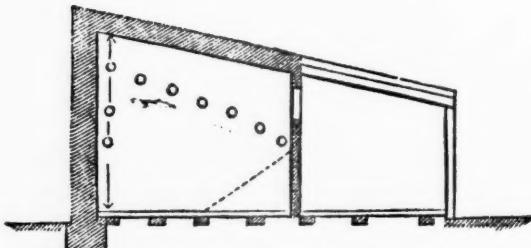
*a, b, Apertures for admitting fowls, with slides for closing; c, place for feeding; d, roosting-room; e, laying-room, with secluded nests; f, bin for seed; g, passage. Scale 16 feet to an inch.*

have during the day a dry, light, and warm apartment in cold and stormy weather. The room marked *c* is designed for this purpose; it is lighted in front and above by sashes, one of which, in front, is hung with hinges for the entrance. If necessary, a ventilator may be added to the roof, or a window in each end.

H.

*Astoria, December 6th, 1843.*

We have personally examined the Fowl-House of our correspondent, and think it the most complete one we ever saw.



Section through *d*.—(Fig. 4.)

CULTURE OF HEMP-SEED.

In the April number, vol ii., of your paper, I gave a brief explanation of my mode of cultivating hemp-seed. In the number for August, I promised, if any improvement in cultivating hemp-seed should be made, I would communicate it for publication, in the American Agriculturist. From information derived from several intelligent hemp-growers, concurring with my own experience, I am convinced, that a greater

quantity of hemp-seed may be produced from an equal quantity of ground, all other circumstances being equal, by suffering only *one stalk* to grow in a hill, than any number *above one*. Assuming that only one stalk should be left in a hill, I would recommend the following mode of cultivation.

The ground, intended for hemp-seed, should be highly manured. This should be applied late in the fall, and plowed under by a good plow, turning up the soil to the depth of at least six inches, and it should be suffered to lie rough till spring, allowing *no stock to run on it*. The winter freezing will completely pulverise the soil, a point of much importance in the cultivation of hemp-seed. The ground should again be plowed in the spring, about the latter part of March, or early in April (in our latitude). But care should be taken not to do this, until the soil is sufficiently dry to pulverise completely. A light harrow should then be run over it to level the ground slightly, and it should be chequered off immediately, three feet each way, with a light one-horse plow, and planted by dropping fifteen or twenty seeds at the crossing of each furrow, somewhat scattering them, and covering with a hoe one or two inches in depth. It is proper to remark here, that hemp-seed ground should be kept as light as possible; and hence it should be trod as little by horses in plowing, harrowing, etc., as may be, and never when the soil is so saturated with water, as to cause the particles to adhere, in the form of mortar.

Early sowed hemp-seed generally succeeds best; and as hemp is a hardy plant, standing severe white frosts without injury, it may be planted as early in the spring as the season will admit of, the ground being prepared as above directed. In our climate hemp will appear above ground in about a week after planting, and when eight or ten days old, a light harrow should be run *over the hemp*, drawn by a single horse, walking in the space between the rows, so as not to tread on the young shoots. The harrow, by running over the hemp may destroy a few of the plants, but there will remain, uninjured, more than will be necessary to leave, and those left will be greatly benefited by the harrow loosening the soil among the plants. My practice is then to harrow *immediately*, in the same way, in the opposite direction. This, however, should only be done, when the first harrowing shall have left more than enough plants, and when there is just reason to believe the second harrowing will leave at least four or five plants in each hill. If the hemp-seed shall have come up well, it will readily admit of this second harrowing, without danger of too much reducing the number of plants in a hill. The two harrowings, if performed when the soil is not too wet, will leave the ground in fine condition, and perfectly free from weeds. Before this operation is performed, if any of the hills are found without hemp, in consequence of the cut-worm, or other insects destroying it, they should be replanted. The plants left after the harrowing, will grow off with surprising rapidity, and will get far ahead of the weeds, which will thereafter make their appearance. The hemp

should now be thinned out by hand, so as to leave not more than five stalks in a hill, and these not crowded together. When the hemp shall have attained the height of ten or twelve inches, it should be worked over with a light one-horse plow, or cultivator, narrow enough to pass between the rows, without endangering the hemp. If the ground is not very clear of weeds, and very light, it will require to be worked over again when the hemp is between two and three feet high; and if the hills shall have become any way foul with grass or weeds, they should be worked over with the hoe. It is generally best to perform this operation immediately after the first plowing. But if the hill is then clear of weeds, etc., it may be postponed till the second plowing. After the second plowing as above, the hemp should be again thinned, so as to leave not more than *three stalks* in a hill. In general nothing more will be necessary till the hemp gets into blossom: but if the ground is very foul, more work may be necessary. Great care should be taken to keep seed-hemp perfectly clear of weeds, until it shall have attained such a growth as to shade the ground completely. Weeds that shall thereafter grow will be so puny as to do no harm. If some scattering ones shall have been left when worked over by the hoe, and are likely to attain such a size as to injure the hemp, they should be carefully cut out. I use the common hemp-hook for this purpose. In working hemp-seed with the hoe, only a little earth should be put about hemp plants.

It is necessary that the female hemp should be impregnated by the pollen of the male stalks, to enable it to produce good seed. But if there are hemp-fields in the vicinity of the seed-hemp, pollen, in abundance, will be furnished by them. If there are none, then I would recommend, that one week after the hemp planted for seed begins to blossom, all the male stalks, which can be distinguished as such, should be cut down, in order to give more room and air for the residue. The male hemp, which thereafter blooms, should be suffered to remain until it shall have shed its pollen, when it also should be cut; and *at the same time*, the most unthrifty female plants, where more than one shall be found in a hill, should also be cut down. After this last and complete thinning shall have been effected, there will be left only one stalk in a hill; that is, one plant for each square yard, or 4,840 per acre, if none be missing. It sometimes happens, though rarely, that all three of the plants left, at the second thinning, will be of the male species. Supposing there shall be forty such hills per acre, there will be left 4,800 seed-bearing plants, if no untoward circumstance shall have destroyed part of the others. If the ground be very rich, the cultivation complete, the thinning out accomplished in due time, and the season very favorable, each stalk will yield, upon an average, one pint of seed, and consequently, under very favorable circumstances, there may be a yield of 600 gallons, or 75 bushels per acre. This great yield can only be expected where everything turns out to the very best advantage; but, as many con-

tingencies may concur in reducing the crop, it will rarely happen that more than fifty bushels will be realized, even in the most favorable seasons. But as the seasons for rearing hemp-seed are variable and uncertain, it would not be safe to calculate upon more than 30 bushels as an average for five or ten years in succession. When hemp is planted and thinned out, as herein directed, the single stalk left in a hill branches out, and grows to a great size. It is very important that the thinning process should take place at as early a period as possible, consistently with the directions given above, in order to afford the seed plants sufficient space for branching, while they are yet in a vigorous and growing state. If this is not done in due season, there will be a considerable diminution in the product.

Hemp intended for seed should be cut soon after the leaves begin to turn yellow. At this period there will be much seed that has not yet become ripe, but more will be lost by the shattering out of the seeds already ripe, by birds, wind, etc., than will be gained by the ripening of others. In cutting, the stalks should be agitated as little as possible, as hemp-seed shatters out very easily. The mode of sowing and thrashing out the seed has been fully explained in my essay on the cultivation of hemp.

A. BEATTY.

Prospect Hill, Ky., Nov. 1843.

#### CULTURE OF PINDARS.

FROM the experiments I have made in cultivating the pindar or ground-pea, I think you would do well to call the attention of your southern readers to that subject. I planted, the 18th February last, three acres in pindars, in rows five feet apart, the peas about twelve inches apart, in a common small furrow made with a bull-tongue plow, on perfectly level ground, having first broken up and harrowed it well. The weather afterward in March was very cold, wet, and unfavorable, and killed many of the peas which had sprouted, so that I had a very poor stand; they, however, grew finely, and interlocked across the rows, and covered the ground pretty well. On the 27th October, I began digging (for fear of frost) by loosening the ground a little round the bunch with an iron fork with three prongs, each above thirteen inches long, and then pitch the fork under the top root and pry it up; a hand follows and lifts up the bunch, most of the peas adhering to it, and shakes the sand (dirt we have none) all off, and lays it out straight to cure like hay; when sufficiently cured, tie up in bundles the proper size for a cutting-box, and stow away for winter food for horses, cows, &c., than which there can be nothing better or more nutritious. I cut a bundle of pindars, peas, tops, leaves, and roots, and then a bundle of rice with the grain all on, and thus mix them together, to feed my work-horses, and milk-cows, and find them all doing better than on any food I have ever tried here. The pindars that are torn from the vine are partly left on the top of the ground, and can easily be picked up after a rain; I then turn the hogs in and they gather the balance, and fatten as finely on

them as on corn. Our poorest land will yield fifty to eighty bushels of the peas, and over a ton of hay per acre, and, altogether, I regard it as one of the finest crops the southern farmer can raise. If we could afford to give an entire crop to the land, I am persuaded it would be quite as good as a crop of your best red clover to fertilize it. There has been a mistaken policy pursued, almost universally, in cultivating the pindar, by covering over the top with earth when they begin to bloom; this is not only unnecessary, but positively injurious, although the top, or vine, grows straight up at first, yet when it is time to seed, the small fibres on the end of which the pea grows arise, the vine inclines to the ground until it finds a proper location, and then extends its branches two, three, or four feet in length in every direction, touching the earth. The only cultivation requisite, is to keep the ground loose and clear of weeds and grass, and as level as possible, so that the fibres on which the pea grows can penetrate the ground easily. I intend, next year, to plant pindars in hills, or, rather, in checks, two feet apart each way, which will cause them to grow in upright bunches, yielding more hay, and will be easier dug, and, I think, will probably yield as many peas.

For the last three weeks I have kept sixty sheep on five acres of sweet potatoes. They have eaten all the leaves and most of the vines, and have evidently improved very much. This does not hurt the potatoes, and the land gets all the benefit of the manure.

We had our first white frost on the 28th October, but so very light as to hurt nothing; since which we have had no more, and probably will not before next full moon, 6th December. Last year our first frost was the 18th November, and very severe; in 1841, the same as this year. Last spring we had frost as late as 29th March. We do not generally have frost after the 10th February. We have had an unusual quantity of rain the past summer and fall, which injured our little crops here very much, particularly sweet potatoes on very level land.

The grape is about receiving that attention it so justly merits here, from a neighbor of mine who possesses the proper degree of energy, industry, and practical knowledge, (having spent his youthful days in the Rhenish vineyards,) to succeed with anything he attempts. He came here and settled in the woods last February, and has already ate grapes of his own raising; besides, he is a farmer in every other respect, and his improvements already, are well calculated to put us all to the blush. I trust his example will have a good effect on the whole neighborhood; we have needed such stimulus here bad enough. I have no doubt he has collected more manure, and made more compost for the benefit of his land, in the last nine months, than every man within nine miles of him has done in the last nine years. There are others, however, here, who are not neglecting entirely their agricultural interests.

JOHN J. McCUAUGHAN.

Palmetto Farm, Mississippi City,  
24th November, 1843.

## MULES FOR AGRICULTURAL PURPOSES.

THE great value of mules, for agricultural and economical purposes, has long been known and generally acknowledged. By those who have given them a thorough trial, their decided superiority to horses is universally conceded. Why then have they not been more generally introduced into the United States, whose citizens are keen to perceive whatever is calculated to promote their own interest? We believe this neglect arises not from a deficiency of sagacity, but from an excess of pride.

In his best estate, this despised hybrid has not the fineness, symmetry, elegance, and commanding action and appearance of the well-bred horse; and in the New England states, where they were first introduced to any extent, they were the offspring of such worthless progenitors on both sides, that it was no wonder they never became general favorites. They were first bred almost exclusively as an article of *commerce*. The market for them was found in the West India islands, where a just taste or nice discrimination did not exist, and where they were estimated, as recruits for an army, only by the number of ears. Diminutive, badly-formed little brutes were imported for the sires, and the only quality considered essential to him, was the certainty of his perpetuating his deformities whenever an opportunity offered. The mares used for this purpose, were such, generally, as were fit for nothing else. It would have been singular, with such an exhibition of qualities, that their descendants should ever have been introduced as domestic favorites. They were tolerated only as an article of profit, and when the markets, first in the West Indies, and afterward in the southern states, were cut off, they were at once unceremoniously struck from the list of northern stock.

The breeding of mules, however, has been wisely taken up by our western and southern farmers; and throughout the slave states especially, where the stock is necessarily exposed to rough usage, they are considered as an invaluable substitute for the horse. Much expense in the importation of Jacks, and discrimination in breeding, has been there applied, and the result is, that they have an admirable race of animals, every way suited to their wants. Occasionally, we have seen fine specimens in New England, New Jersey, and the southern part of New York, and by their owners they were universally held as much superior to horses of the same weight, for all purposes of utility. A passably good animal is seldom valued at less than \$100, and sometimes as high as \$200 and \$250. A. De Russey, Esq., of New Jersey, showed me a pair of mule colts, bred from fine blood mares, for which he had been offered \$200 at weaning age, but he expected to get \$200 each for them when fairly in harness. I have seen several other pairs at the north, for which \$400 had been repeatedly offered and refused. These facts show that wherever they are properly bred, properly trained, and properly looked after, their value is fully appreciated even in this region.

It is from a desire to the more general introduction of this valuable animal on the farms through-

out our northern states, that I shall submit the following brief summary of facts, in their favor. Not having much personal experience of their good qualities, I must draw somewhat from the experience of others. S. W. Pomeroy, Esq., of Massachusetts, wrote a prize essay on mules, in 1825,\* which is altogether the most comprehensive, yet condensed and practical article on the subject, I have seen, and from this I shall take the liberty of making some extracts.

There is no doubt, that the value of the mule, like every other animal, depends almost exclusively on that of his sire and dam. No good foal can be relied on, except from choice parents. The best Jacks are supposed to have originated, where the perfection of horse-flesh has been found; viz., in the dry, sandy region of Arabia. It is doubtless from this source, that the Jacks of Malta, among the most valuable ever brought to this country, have been derived; while the best and most spirited race of the Spanish Jacks have probably had a similar, though somewhat remoter origin; having been introduced into that country from Morocco, by the Moors; these being direct descendants of the Arabian ass. Though not possessing the larger size, they have more symmetry, spirit, endurance, and intelligence, than the slower and more unwieldy ass of other regions; and it is from these races, and large, well-bred, roomy mares, that the best mules in this country have been produced. General Washington had a Maltese Jack sent him from Marseilles, by La Fayette, in 1787, which produced for him a valuable race of mules; and from him and a Spanish Jennet, a present from the king of Spain, he bred Compound, a famous stock-getter.† From these two Jacks, were bred some of the best mules the country at that time afforded. General Washington used his best coach-mares for this purpose, and his judgment in this practice was shown by the result. After his decease, eight of his mules sold for upward of \$1,600. G. W. P. Custis, Esq., who inherited some of this stock, says: "As to my opinion of the value of mules, I shall always appear extravagant. I have scarce a horse on my estate for agricultural purposes, nor would I accept of one as a gift. Mules live longer, and eat less; and by their strength, patient endurance of slender pasturage, privation, and hardship, are better suited to our slaves than any other animal could possibly be." This opinion is strongly corroborated by an official report of a highly intelligent agricultural committee in South Carolina, in 1824; which reported, that "the annual expense of keeping a horse was equal to his value; that a horse at four years old would not often bring more than his cost; that two mules could be raised at less expense than one horse; is fit for service earlier, and if of sufficient size, will perform as much labor; and if attended to when first put to work, his gait and habits may be formed to suit the owner."

\* Published in the *American Farmer*, Vol. VII.

† I noticed in the stables of Dr. John A. Poole of New Brunswick, N. J., while on a visit to him last year, several very superior Jacks. Some were of the Spanish, some Maltese, and some native bred, and all excellent of their kind.

Mr. Pomeroy, who "used them near Boston for 30 years, and to such an extent as to have had more labor performed by them probably than any person in New England," says:—

"I am convinced the small breed of mules will consume less in proportion to the labor they are capable of performing than the larger race, but I shall confine myself to the latter in my comparison, such as stand 14½ to 16 hands, and are capable of performing any work a horse is usually put to. From repeated experiments, I found that three mules of this description, which were constantly at work, consumed about the same quantity of hay, and only *one fourth* the provender which was given to two middling size coach-horses, only moderately worked. I am satisfied a large sized mule will not consume more than three fifths to two thirds the food to keep him in good order, that will be necessary for a horse performing the same labor. The expenses of shoeing a mule the year round, does not exceed one third that of the horse, his hoofs being harder, more horny, and so slow in their growth, that shoes require no removal, and hold on till worn out; and the wear from the lightness of the animal is much less.

"Mules have been lost by feeding on *cut straw*, and *corn meal*; in no other instance have I known disease in them, except by inflammation of the intestines, caused by the grossest exposure to cold and wet, and excessive drinking cold water, after severe labor, and while in a high state of perspiration. It is not improbable a farmer may work the same team of mules for 20 years without having a farrier's bill presented to him.

"In my experience of 30 years, I have never found but one mule inclined to be vicious, and he might have been easily subdued while young. I have always found them truer pullers and quicker travellers, with a load, than horses. Their vision and hearing are much more accurate. I have used them in my family carriage, in a gig, and under the saddle; and have never known one to start or run from any object or noise, a fault in the horse that continually causes the maiming and death of numerous human beings. The mule is more steady in his draught, and less likely to waste his strength than the horse, hence more suitable to work with oxen, and as he walks faster, will habituate them to a faster gait. In plowing among crops, his feet being small and following each other so much more in a line, he seldom treads down the ridges or crops. The facility of instructing him to obey *implicitly* the voice of the driver is astonishing. The best plowed tillage land I ever saw, I have had performed by two mules *tandem*, without lines or driver. The mule is capable of enduring labor in a temperature of heat that would be destructive to a horse. Although a large mule will consume something over one half the food of a horse, yet the saving in shoeing, farrying, and insurance against diseases and accidents, will amount to at least *one half*. In addition, the owner may rely with tolerable certainty on the continuance of his mule capital for 30 years; whereas the horse owner must, at the end of 15 years, look to his crops, his acres, or a bank for the renewal of his.

"The longevity of a mule is so proverbial, that a purchaser seldom inquires his age. Pliny mentions one 80 years old; and Dr. Rees, two in England that reached the age of 70. I saw one performing his labor in a cane-mill in the West Indies, which the owner assured me was 40 years old. I have now a mare-mule 25 years old, that I have had in constant work for 21 years. She has often within a year taken a ton weight in a wagon to Boston, 5 miles, and manifests no diminution of her powers. A neighbor has one 28 years old, which he would not exchange for any horse in the country. One in Maryland, 35 years old, is now as capable of labor as at any former period."

Mr. Hood of Maryland, in the American Farmer, Vol. XII., estimates the annual expense of a horse for 12 months, at \$44.00, and that of a mule at \$22.00, just half price, and his working age at more than twice that of the horse, and that too after 30 years' experience in keeping both.

A correspondent of the Baltimore Patriot, asserts that "Col. John E. Howard had a pair of mules that worked 30 years, after which they were sold to a carter in the city, and performed hard service for several years longer. Many mules 25 years old, and now in this country, perform well. Many have been at hard work for 12 or 15 years, and would now sell for \$100 each. They are not subject to the colt's ailments, the glanders, heaves, yellow water, and colic, like horses; and seldom are afflicted with spavin, ring-bones, or bots, and they will not founder."

Mr. Skinner mentions riding with General Shelby, of Kentucky, after a pair of his mules in harness, eight miles within the hour, without the use of whip. General Shelby says "he has known mules to travel 10 miles within the hour in light harness, and has himself driven a pair 40 miles in six hours, stopping an hour by the way."

Mr. Nathaniel Hart, Jr., of Kentucky, informs me, that he purchased for John F. Preston, Esq., brother of Mr. Senator Preston of South Carolina, four match mules from Major Shelby of Lexington, for \$1,000. They were of course very superior animals, and made elegant coach-horses. Mr. Preston has driven these mules 80 miles in a single day without injury; and they proved a first-rate team for many years.

Mr. Ellicott of the Patuxent Furnaces, says: "Out of about 100 mules at the works, we have not lost on an average one in two years. Bleeding at the mouth will cure them of nearly every disease, and by being turned out on pasture, they will recover from almost every accident. I do not recollect we have ever had a wind-broken one. They are scarcely ever defective in the hoof, and though kept shod, it is not as important as with the horse. Their skin is tougher than that of a horse, consequently, they are not as much worried by flies, nor do they suffer so much with the heat of summer."

To the foregoing testimony I may add that of the late Judge Hinckley of Northampton, Massachusetts; a shrewd and close observer through a long life, reaching to 84 years. He bred mules at an early day, and always kept a team of them for his farm work, much preferring them to horses for

this purpose, after an experience of 50 years. He had a pair nearly 30 years old, which, in light pasture in summer, and with a moderate supply of hay and very little grain in winter, and no grooming, performed all the drudgery, though he kept his stable full of horses besides. They outlived several successive generations of horses, and though the latter were often sick and out of condition, the mules never were. This pair once took two of us in a *fancy drive* of some 40 miles, which they easily performed in half a day, although attached to a heavy, clumsy vehicle. One from the stock of Judge Hinckley, 45 years old, was sold for the same price paid for a lot of young mules, he being at that mature age, perfectly able to perform his full share of labor.

For the caravans that pass over the almost inaccessible ranges which form the continuation of the Rocky mountains, and the extensive arid plains that lie between and west of them, on the route from Sante Fe to California, mules are the only beasts of burden used in these exhausting and perilous adventures. Their value may be estimated from the comparative prices of mules and horses; for while a good horse may be bought for \$10 to \$20, a good mule is worth \$50 to \$75. My friend, Dr. J. H. Lyman, who recently passed through those regions, informs me that their caravan left Santa Fe with about 150 mules, 15 or 20 horses, all beasts of burden, and two choice blood horses, belonging to an English gentleman, which were led and treated with peculiar care. On the route, all the working-horses died from exhaustion and suffering; the two bloods that had been so carefully attended, but just survived; yet of the whole lot of mules, but 8 or 10 gave out. When thirst compelled them to resort for successive days to the saline waters, which are the only ones furnished by those dry and sterile plains, the horses were at once severely, and not unfrequently, fatally affected; while the mules, though suffering greatly from the change, yet seldom were so much injured as to require any remission of their labor.

The mules sent to the Mexican possessions from our western states, Arkansas, Missouri, Tennessee, and Kentucky, are considered of much more value than such as are bred from the native (usually wild) mares. The difference probably arises, in part, from the Mexicans using inferior jacks to those so highly improved of late years by our western citizens.

Mare mules are estimated in those regions at one third more than horse mules. The reason assigned for this is, that after a day's journey of excessive fatigue, there is a large quantity of blood secreted in the bladder, which the female, owing to her larger passage, voids at once and without much apparent suffering, while the male does not get rid of it, frequently, till after an hour of considerable pain. The effect of this difference is seen in the loss of flesh and strength in the male to an extent far beyond that of the female. Dr. L. says the universal method of reducing refractory mules in the northern Mexican possessions, is for the person to grasp them firmly by the ears, while another whips them severely on the fore-legs and belly. He says a mule 36 years of age

was as hardy, strong, enduring, and performed as hard labor, as any one in the caravan.

To sum up the advantages of working mules over horses, we shall have as advantage:—

1. They are more easily, surely, and cheaply raised.

2. They are kept, after commencing work, for about half the cost of keeping horses.

3. They are not subject to many of the diseases of the horse, and to others, only in a mitigated degree, and even these are easily cured in the mule.

4. They attain an age twice as great, and his average working age is probably three times that of the horse.

Let us see what the annual saving would be by substituting mules for three fourths of the horses now used in the United States; one fourth supposed to be required for the purposes of breed, fancy horses, &c., &c.

In 1840, there were reported to be 4,335,669 horses and mules in the Union, no discrimination having been made between them. Suppose the total number at the present time is 4,650,000, and that of these 650,000 are mules, we shall then have 3,000,000 horses, whose places may be equally well supplied by the same number of mules. We have seen that Mr. Hood of Maryland estimates the expense of a working horse at \$44 per annum, (not an over estimate for the Atlantic states,) while that of mules is \$22. The difference is \$22, which it is proper to reduce to meet the much lower rate of keeping at the west. If we put the difference at \$10, we shall find the saving in the keep, shoeing, farriery, &c., by substituting mules for the 3,000,000 horses that can be dispensed with, will be \$30,000,000 per annum. But this is not all. The working age of the horse will not exceed an average of eight years, while that of the mule is probably over 24. To the difference of keep then, must be added the annual waste of the capital invested in the animal. A mule is more cheaply raised to working age than a horse, but allowing them to cost equally, we shall have the horse exhausting one eighth or three twenty-fourths of his capital annually for his decay, when the mule is using up but one twenty-fourth; and if we allow \$48 as the first cost of both animals, we shall find the horse wasting \$6 annually for this item, while the mule deteriorates but \$2, making an additional item of \$12,000,000 more; and an aggregate of \$42,000,000 as the annual saving to the United States by substituting good mules for three fourths of the horses now used in this country. When will our farmers have the good sense to make this change? It may be fairly answered, when they shall prefer utility, and interest, and a just taste, to a diseased fancy; for though we admit the superiority in appearance of the race of horses over mules, we deny that a bad horse looks better or even as well as a good mule; and with the same keep and attention, a good mule will outwork and outlast any horse of any breed.

We shall not here go into the estimate of the value of oxen as compared either with horses or mules, but content ourselves with saying, that the strictest economy requires that a spirited, intelli-

gent, vigorous, muscular animal, like the pure north Devon, or Hereford, or native New England ox, ought to be substituted for both the mule and horse, wherever the latitude and labor will admit of their employment to advantage.

R. L. ALLEN.

Buffalo, December 13th, 1843.

#### GRAMA, OR BUFFALO-GRASS.

THIS article is the first of a series which is promised us by a friend of ours, Dr. Lyman of Massachusetts, who has recently returned from a three years' tour among the Rocky mountains, the northwest coast, California, parts of South America, and the Sandwich islands. They will be descriptive, mainly, of such products as may be introduced with advantage into our country. We wish the numerous intelligent travellers from the United States abroad, were more often in the habit of chronicling their observations on the agricultural products of foreign countries for the benefit of their countrymen. In consequence of its growing up so thick and fine, we think the buffalo-grass peculiarly adapted for lawns and ornamental grounds, in addition to its great value as a pasture for sheep and other animals.

I noticed page 234 of the last volume of your paper, an account of a grass seen on the western prairies, by Captain Cook of the United States Dragoons. The description he gives of it is entirely correct, with the exception of the name which he has given to it. He has accurately described a grass which is familiar to all who have visited a portion of that vast extent of country lying between our western frontiers and the coast of California, but recognised as the "grama," to which Captain Cook applies the name of "buffalo-grass." It is to be met with in any quantity only between the 96° west longitude, meridian of Greenwich, and the eastern edge of the Rocky mountains.

The name of *grama* was given to the grass of which Captain Cook has furnished a description, by the early Spaniards or new Mexicans. It is probably derived from the Latin *gramen*, and applied by the first settlers of New Mexico to this grass, from the fact of its being the *grass of grasses*, a vegetable containing, in a small compass, all of the most highly azotized principles subservient to animal assimilation. It is not found in as great abundance as some other grasses, such as the *river-bottom grass*, which, in appearance, is like the early green swamp grass, but more tender and nutritious, and the leaves never serrated. The *river-bottom grass* is also, in appearance, similar to the rank prairie-grass, except in luxuriance, never exceeding twelve or eighteen inches in height; whereas, the prairie-grass, about the western frontiers, grows to the height of three, and even four feet. Both of these grasses seem to afford but few temptations to the grazing animal, and are only eaten by them when impelled by hunger or deficiency of other food, even in the

spring, when young and fresh. Animals, however hungry and travel-worn, will take no notice of it, but search diligently and greedily for the *grama* or *buffalo* grasses, as soon as they discover their presence. The two latter grasses are seldom found in the same soil with the first, but occasionally I have seen them, and observed with interest animals picking out with care the scattering blades which they discover, shooting up among rich clusters of bottom-grass, which would seem sufficiently tempting to a tired, hungry animal.

Prairie and river-bottom grasses are only to be found in rich moist soil; whereas, both *buffalo* and *grama* grasses are only met with in abundance and perfection in hard, dry, and gravelly soil, on side hills and the elevation of undulating prairies and valleys. In fact, hunters and trappers, and others who roam over our great western wilds, think themselves fortunate in finding water, particularly running streams, in the vicinity of these grasses; for there they usually remain a few days to recruit their exhausted animals, and procure their supplies of wild meat, which, in the vicinity of these, never fails; proving, satisfactorily, the vast superiority of these grasses over others, the conduct of both domestic and wild graminivorous animals, influenced by their native instinct in the preference, vouching indubitably for this superiority.

The principal source of nutrition in the "buffalo" (*grama*) grass, is correctly attributed by Captain Cook to reside in the seeds; whereas, that of the true *buffalo*-grass exists in the whole plant. This latter grass ripens much later than the *grama*, and its seeds are retained in the plant far less tenaciously. In fact, they are held by so slight a grasp, that the plant is entirely divested of them, almost immediately upon ripening; whereas, the *grama* retains its seeds until winter. Even late in January, upon scraping away the snow, laying bare the grass for my animals to graze, I have found the *grama* bent flat upon the ground, but still retaining many of the seeds, which I have shelled out with my fingers.

I have met with the *buffalo*-grass in quantities, only between about the 96th degree of west longitude, and the eastern border of the Rocky mountains. I do not recollect ever to have seen any within the mountains during the twelve months I was there, nor in a long and circuitous journey to the shores of the Pacific. After leaving the western frontier of the United States, the character of the country and soil is exceedingly fertile. The vast undulating prairies are very generally covered with the high, luxuriant prairie-grass, and along the borders of many of the creeks, are found, in the greatest abundance, the wild pea, wild cherry and plum-trees, affording food to endless flocks of wild turkeys and prairie-hens, the latter bird, but very little inferior in size to the domestic fowl. Approaching the vicinity of the 96th degree of longitude, the traveller finds himself on the extreme borders of the "buffalo country." Here the character of the soil begins to change from the rich, moist loam, to hard, dry, gravelly land. Here terminates the prairie-grass, and in its place appears the *buffalo*-grass, so named, perhaps, from

the fact of the buffalo very rarely being found east of it. Instead of rising in rank luxuriance like the prairie-grass, impeding the traveller in his march, it seldom is found elevated more than three inches, is thickly spread about, scarcely showing any bare spots of ground. In a word, where it is abundant, it forms a beautiful soft carpet, upon which the traveller treads with satisfaction and ease, and finds at night both himself and animals far less wearied than when plodding through the high grass in the early part of his journey. This grass sends up its leaves from a fasciculated bundle or union of its numerous delicate, spreading, fibrous roots at the very surface of the ground, which fasciculus is about one quarter of an inch long, and from which is sent out, without the medium of any stalk, from eight to a dozen long, slender, tapering leaves, which are four or five inches in length, but which rise to an elevation of about three inches only, and then gracefully bend over to the ground. About one inch from the ground the leaves commence curling in a lateral direction to the tips, which are curved in the form of a ring, nearly touching the ground. From the main root or fasciculus is sent up a short delicate seed-stalk.

My reasons for asserting that Captain Cook is mistaken in his application of the term "buffalo" to the grama-grass, are, that I have been informed by very many trappers and New Mexicans of the names and distinctive characters of each, and that in no instance, have I ever heard, during the experience of nearly two years, the name of *buffalo-grass* applied to the *grama*, but on the contrary, have repeatedly had them pointed out to me by the above distinguishing names. By the Mexicans one is called "la grama," and the other "la yerba de cibolo," (buffalo-grass.)

The grama is very abundant in the western valleys of the Rocky mountains, and about the sources and main branches of the river Bravo del Norte, and Colorado of the west, and at intervals in the intervening country between those rivers and the mountains of California, where it is also very abundant.

These grasses might be introduced into the United States with great advantage. The buffalo grass being well adapted to the fattening of animals, and the grama for strengthening the horse, the ox, &c.

J. H. LYMAN.

#### EXPERIMENTS WITH GUANO.

WE are permitted by Mr. Wakeman, Secretary of the American Institute, to make the following extracts from an address delivered October last before this body, by J. E. Teschemacher, Esq., of Boston, Massachusetts.

In an address which I had the honor of delivering before the Massachusetts Horticultural Society last year, I detailed a few experiments made by myself with the new manure from the coast of Peru, called guano, which is unquestionably the dung of sea-birds that has accumulated there in almost incredible masses, and which, owing to its never having been washed by rain, not only retains

for ages its wonderful fertilizing power, but possibly possesses them in a concentrated state.

I think this is a fit opportunity to give the results of a continuation of some of these and other experiments, premising that every operation has been carried on by my own hands. But I would previously remark, that about four or five years ago, two cargoes of this manure were imported into England; the following season this number was increased to six, and in twelve months, of 1842, and '43, this importation has increased to above 40,000 tons, and that the sales in London alone since last January, have been from 250 to 500 tons weekly; those in Liverpool probably exceeding this amount. I should be quite willing to rest my belief of its immense importance to agriculture on these facts alone, even if I had not my own experience to confirm it, although I am aware that several experiments have been made which have failed. In all those which I have heard of, the failure could always be traced to some error in its application; some had applied too much, for it is extremely powerful, and had killed their plants—others applied it in ground already highly manured, its effects were of course scarcely visible; others had applied it on dry soil at a dry season, when of course there were no means of its reaching the roots in a proper state. In Peru it is always applied just previous to irrigation, for it never rains on that coast.

On the 12th of May, this year, I sowed several hills of sweet-corn on a poor, exhausted, sandy soil, putting a tablespoonful of guano to each hill of 5 seeds, without any other manure. I feel sure that this quantity in sowing is two thirds too much, one teaspoonful would suffice, besides which it was not sufficiently stirred up with the soil, so that when the young tender sprouts first germinated, they came at once into contact with this most powerful manure, and were considerably injured, turning yellow, and several dying away. Three or four, however, in each hill survived and soon began to grow, of a dark green color. For the first three weeks I did not observe much difference between these and some adjacent hills in the same soil, which I had sown also without manure, for the purpose of comparison. When about one foot high, I stirred into each hill about three teaspoonsfuls more guano, and watered all freely as the weather was very dry. On the 11th of July the tassels appeared, which is about a fortnight earlier than usual. When fit for gathering for the table, I exhibited at the rooms of the Massachusetts Horticultural Society, the largest produce of one seed. It had three principal stems, two of which had three heads each, and one two heads, in all eight heads, besides five suckers, each of which showed the silk. The weight of this plant, the roots being cut off, was  $8\frac{1}{2}$  lbs. At the same time I exhibited the best produce of one seed out of the hills without guano or manure. One stalk showed one head, no sucker, and weighed  $1\frac{1}{2}$  lbs. It is well known by cultivators of this corn, that under the usual cultivation it seldom averages two heads to a seed. In my address before mentioned, the view I took of the action of this manure, and which I beg leave to state that I deduced theoret-

ically, from a consideration of the analysis of its contents, was that it would be more valuable in agriculture than in horticulture, for that it was probable that it would diminish the size of the flower, but that it would certainly increase the produce of seed. I consider the above experiment with sweet-corn alone as considerably fortifying these views, and I will mention but one other of my numerous experiments; it is purely a horticultural one, but it further supports the same theory, which is very important to agriculture.

In February, 1842, I repotted two plants, an old woody one, and a young cutting of heliotrope, which were in soil entirely exhausted, and in which they had been about 12 months. The exhaustion of the soil was proved by the leaves turning yellow and dropping off as fast as they appeared, as well as by the attenuated appearance of the shoots. On repotting, I merely added a teaspoonful of guano to the same soil, and replaced the plants in the same pots. In three months they had both shot out most luxuriant branches, with many clusters of flowers; and on the older and more woody plant, each cluster produced a good crop of seed, which this plant seldom produces, even under good common cultivation. This seed and luxuriance may therefore be fairly attributed to the guano. In order to pursue this subject to its farthest limits, I considered it valuable to discover whether any of the ingredients, discovered by chemical analysis of this manure, had found their way permanently into the seed of the sweet-corn, with a view of ascertaining its importance in cultivation as an improver of the food either for cattle or man. I therefore forwarded a portion of the seed grown with guano to Mr. A. A. Hayes of Roxbury, to whose valuable discoveries and researches on this subject I have before alluded, and likewise to Dr. C. T. Jackson, who has also interested himself much in these matters.

Dr. Jackson I have not yet heard from, but the result of Mr. Hayes's experiments on the corn I transmitted to him, is, that the phosphates in the guanoed corn, are to those in the corn without guano, as 6 to 4; in other words, the guanoed corn contains 50 per cent. more phosphates than the other. Now according to the most recent physiological discoveries, it is agreed that without the phosphates, neither flesh nor blood can be formed, and therefore, that the value of food for cattle and man, is dependant on the quantity of phosphates it contains.

The facts may therefore be stated as follows: In a poor soil, with guano at the expense of about \$3 per acre, a crop of Indian corn may be raised at least double in quantity to that raised on well-manured land; and this double quantity will contain 50 per cent. more of those ingredients, (phosphates,) which are absolutely necessary to the formation of flesh and blood, than the other.

I myself have repeated Mr. Hayes's experiments with this corn, although I have not been able to separate the ingredients in the seed, so as to make a delicate and certain comparison with those of seeds grown without guano. Yet, according to the judgment of my eye, there is certainly an increase in the phosphates of the seed with guano:

If this fact can be fairly once ascertained with one ingredient, it may be fairly supposed to be the case with others; and when the researches affecting agriculture, now being pursued by numerous able men of science, shall have attained a greater degree of precision and perfection, the importance of a knowledge of the ingredients contained in the various foods of cattle and man, will become quite manifest.

One other consideration has suggested itself to me as worthy of notice. In cultivation, the choice of fine seeds has always been deemed of first-rate consequence. If the seed of this first year's sowing with guano has really acquired any more valuable properties than that cultivated without, it is at least probable, from what we already know practically of the laws of vegetation, that these properties may be increased with another year's similar treatment; I have therefore preserved some of this guanoed corn as seed for the succeeding year, when it will be again tried with the same manure.

It is much to be regretted that an import duty of 20 per cent. ad valorem is levied on guano. This has just been paid on a small quantity imported into Boston, a good portion of which has, by the liberality of Capt. John Percival of the U. S. Navy, been distributed among the members of the Massachusetts Horticultural Society; no doubt, however, that on proper representation being made at Washington, an article of so much importance to agriculture, will be admitted free.

I will merely add to these statements, that the quantity of guano I consider desirable for each hill of corn of 5 seeds, is less than one ounce to be given in two applications. One quarter on sowing must be well mixed with the soil, and three quarters stirred well into the hill when the plant is about a foot high, always endeavoring to effect this latter operation just previous to rain. This would give about 70 lbs. to the acre, supposing it to contain 1,100 hills at six feet apart. The price in England, is £10 to £12, or \$50 to \$60 per ton of 2,240 lbs.; hence the quantity to the acre would cost somewhat less than two dollars and no other manure is necessary. In England it has been applied at the rate of 250 to 500 lbs. to the acre, or more than six times the quantity by the above calculation; but there it is scattered broadcast as the seed is sown, and of course the quantity used must be much greater, as all the ground is covered. In the method I propose it is applied as it were simply to each plant. In England nothing is cultivated in hills, it is either broad-cast or in drills.

There is unquestionably much still to learn on this subject: I am sure I do not pretend to have more than raised the skin of the scientific part of it; but of the great value of guano on poor and sandy soils under proper application, there can not exist a doubt.

A remark has been made by some even of high authority in these matters, to the effect that having stimulated vegetation highly by these powerful manures, should the application not be continued, the soil would become exhausted and barren. Now is this not true of any manure, of

the best-cultivated field in the world? Must not the farmer always use manure, and does he not exert himself to make it as powerful as possible? There is no strength in this objection. The results of many careful experiments made in England on various crops, have been published. They are quite decisive in favor of guano, even compared with nitrate of soda, and other powerful fertilizers. Another manure I read of, as much in favor there, is Potter's artificial guano, composed chiefly of the same ingredients as chemical analysis has shown to be contained in the South American guano. Therefore, should the cheap natural source in Peru fail, science has shown how its place can be supplied, although I fear at rather a more costly rate.

#### THE PULVERIZER.

I HAVE lately seen an implement invented this year by Mr. Isaac Clapp of Dorchester, Mass., which he calls properly a pulverizer. It is certainly an implement of much merit, and has given great satisfaction at the meetings where it has been exhibited, as well as to individuals who have seen it operate, and in whose judgment I have the highest confidence. It is a roller loaded as heavily as is judged proper; behind this is a moveable frame of a simple construction, managed with the hand, by means of two handles. This frame is armed below with a number of strong knives, about four or five inches long. As the roller passes along, the knives are pressed into the soil by the hand, the roots and clods are cut to pieces, and the earth is as beautifully pulverized as if it had been done by spade-husbandry. In case of meeting with stones, or other impediments, the frame is lifted up and passes over without trouble.

I do not mention this machine for the purpose of putting it into notice, for it is of so simple a construction, that Mr. Clapp has no idea of reaping any benefit from it; but since I began writing this address, I have heard of its very satisfactory action at a meeting near Worcester, and while listening to the account, an idea struck me, which, as I have not seen Mr. Clapp, I have not communicated to him; it is, that it would be a most excellent machine for incorporating into the soil guano, lime, nitrate of soda, or any other of these manures which are spread broad-cast over the surface, and need some implement to put them slightly under the soil until wanted by the crop, that their virtues may not be wasted in the desert air.

J. E. TESCHENMACHER.

#### AGRICULTURE OF NORTH ALABAMA.

DESCRIPTION.—The only part of North Alabama worth notice, as a planting or farming region, is the valley of the Tennessee river. It embraces six counties, north and south of the river. Latitude  $34^{\circ} 40'$ —150 miles long, by 40 or 50 broad. The face of the country is level, the soil good. The forest is composed principally of post-oak, red-oak, black-jack, and hickory. The surface soil is a dark vegetable mould, from three to six

inches deep; the sub-soil is a deep red clay—yet productive when exposed to the sun and air. It dries quickly, is not very adhesive, and plows kindly, in all reasonable weather. About one eighth of the soil is sand, which accounts for its easy culture. It is as susceptible of fertilization as any soil I know, yet no attention is paid to manuring. The horse-stables and lots are frequently not cleaned out for five years; and not unfrequently large heaps of cotton seed, (the best of manures,) accumulate about the gin-house, and there remain, without being applied to fertilize the land.

SIZE OF FARMS.—The country is divided into farms, from 100 to 3,000 acres, generally squares, or parallelograms. The most common size is 800 to 900 acres. The force engaged varies with the farms, from 5 to 100 hands. The most efficient force for its size, is 25 to 30 hands. The number of souls on a farm is about double the number of hands.

PRODUCTS.—Cotton is the staple, or article of export; corn, wheat, oats, rye, and potatoes, are raised for consumption, and comprise the entire crop. The crop per hand, is 8 acres of cotton, 6 of corn, and 3 of small grain. The average product per acre, is 150 to 200 lbs. bale-cotton, or 600 to 800 lbs. seed-cotton; 25 to 30 bushels of corn, or maize; and 12 to 15 bushels of wheat, rye, or oats.

MODE AND TIME OF PLANTING CROPS.—Wheat is sown in October, on corn or cotton-stubble, and plowed in with single plows. Oats are sown in February, and managed in the same way. Corn is planted in March, by throwing two furrows together 5 feet apart, check across, at  $3\frac{1}{2}$  feet, drop and cover with a hoe or block. Corn is plowed twice each way, four to five furrows at a time, and thinned to two plants in a place. Stock-peas are planted the third plowing, in the middle of the wide rows; the culture of this crop stops in June, at which time we harvest wheat and oats. Cotton is planted in April, by running off the land  $3\frac{1}{2}$  feet, throw two furrows each way with a turning-plow, which forms a ridge, open this with a coulter plow, very shallow, drill in the seed at the rate of three to five bushels per acre, and cover with a block, or billet of wood two feet long, eight inches in diameter, and notched so as to fit the ridge. On the after-culture of this crop we all differ; no two work alike. Generally, the plants are thinned to one foot in the drill, hoed five or six times, plowed as often, but very shallow. We lay by this crop 15th July. The remainder of this month is occupied in fixing about the farm. August, we strip the blades from the corn, and stack it for the team. No attention is paid to the grasses, except, in a few small lots, occasionally a field of red-clover, which does well. September, we commence picking cotton, and continue, when the weather is favorable, till it is out, if it takes till April.

STOCK.—The working-team of a farm is made up of mules, horses, and oxen. Mules are preferred. Every farmer attempts to raise his own team. Thirty to forty acres are allowed for one horse or mule to cultivate; though there are one third more animals kept about the farm, than the

number employed. All raise sheep enough to supply the family with wool and mutton. No attention is given to the sheep, they shift about the farm, without any feeding. All raise pork enough for their own use, and occasionally some to sell. We are as great pork-consumers as any on the globe, for our number. From 200 to 250 lbs. per head, for all the souls on a farm, is allowed. More attention is paid to hogs, than any other branch of stock, they are raised principally on corn, aided by peas, oats, and clover. We have of all the improved breeds of swine. I have a pair of Berkshires, from John Mahard, Jr., of Cincinnati, Ohio. I have bred from them two years, and consider them the cheapest and best stock I have seen. For the last two seasons I have fattened my hogs with one third less grain, and have larger animals than before I obtained Berkshires.

**DOMESTIC FABRICS.**—Most all of our farmers manufacture the apparel of their domestics and laborers. We use Pearse's spinning machine, made at Cincinnati, Ohio, with six spindles, and the common loom. We have two infant cotton factories in the valley. They run from 8,000 to 10,000 spindles, and about 75 looms. Their profits are considered greater than any other branch of business in the valley.

**PRICES OF PRODUCTS.**—I add the home prices of agricultural products. Cotton, 6 to 6½ cents per lb.; Bagging, 15 to 16 cents per yard; Rope, 6 to 7 cents per lb.; Corn, 20 to 25 cents per bushel; Oats, 37½ cents; Wheat, 62 to 75 cents; Pork, \$2.75 to \$3.00 per 100 lbs., in demand; Mules \$50 to \$75; grown Cattle, \$4, to \$10 per head; Sheep, \$1, to \$1.25. Frequently there is no demand for any of the above articles—all sellers and no buyers.

G. L. COCKRILL.

Tuscumbia, Ala., Nov. 30th, 1843.

We are much obliged by Mr. C.'s account of North Alabama, for it is a land little known to us. It shows quite a happy state of things, and we hope he will continue to favor us with other notices of its agriculture. We should like to learn more particularly about grasses—how they flourish during the heat of summer? whether they have any improved animals there other than swine? what kinds of fruit are cultivated? and how our northern fruits, such as apples, pears, plums, cherries, &c., produce?

The ear of corn about which Mr. C. inquires in his P. S., had 21 rows, *exactly*—neither more nor less; for we counted them twice, thinking we were mistaken the first time. It was also a subject of remark among several of our friends. But why "anomalous"? If we recollect right, we have seen ears of corn in the valley of the Miami, showing from 18 to 24 rows each; though we can not positively vouch as to the fact. Will some of our Ohio correspondents say whether we are correct in our recollections or not?

**THE POLOTOKIAN, OR ARTIFICIAL CHICKEN-HATCHER.**—We understand this curious establishment for hatching and rearing chickens by artificial heat, is at length in successful operation. It is situated in the suburbs of Brooklyn; but as the proprietors have not yet perfected their operations, they decline admitting any one to see it. We are informed that they claim some new discoveries or improvements over those used in England, and as soon as these are complete, we hope to be allowed the privilege of inspecting the premises, and giving the public some account of it.

#### NORTHERN CALENDAR FOR JANUARY.

THE following brief hints to the farmer, planter, and gardener, will be found to apply not only to the months under which they are arranged, but owing to diversity of seasons, climate, and soils, they may frequently answer for other months. This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.

This is the season, when, throughout all the northern states, the out-door work connected with the soil is totally suspended. But luckily for the pleasure of the farmer, as well as his profit, there are many things requiring his attention equally with the duties of every season, and some of which may be much better done than at any other time. The first and most important thing that demands his attention, is the care of the stock. All his cattle, horses, and swine, should be housed at night and during storms, and the sheep, though usually considered a more hardy animal, and better adapted to exposure and inclemency, will yield more wool, and consume less hay, and be less subject to disease, if furnished with snug shelter at night, and during the coldest weather. They require a free ventilation of their sheds, which all stables should also have. But this does not imply that they should be so open to the rude winds, that a good-sized calf can jump through the sides of the buildings anywhere. They may be close and warm, but not filthy, damp, and unwholesome; on the contrary, they should be kept clean and at all times well aired. If fodder is short with you, be the more economical with it, not by starving your cattle, but by taking more care that none of it be wasted. There is great saving in cutting fodder, which should always be done when the price of labor is not too high in proportion to its value. Where this is practised, cattle eat all the hay clean; and straw and corn-stalks, when cut up fine, with the addition of some light grain or roots, will keep stock well through the winter, if properly housed. Sheep should never be suffered to run under the hay-mow or stack, as the seeds and parts of the hay sift into the wool, and diminish its value materially. Water should, if possible, be supplied in the farm-yard, and wherever practicable, from a living spring, or running stream. This gives fresh, sweet water, and by having a supply always at hand, animals never drink to excess or overload their stomachs with cold water, which often produces cramp or colic. If the sledding is good, or the ground well frozen, all the transportation for the year that can possibly be done, should be attended to. All the wood required for the year may now be drawn. This ought to have been cut in the preceding autumn or summer, as it is more solid and durable cut at that time, and it has moreover an opportunity to get well dried. The logs should be drawn to the saw-mill, by which a supply of boards and timber can be in ready-

ness for future use. All the products remaining on hand should be taken to market, if the prices are favorable. Heaps of manure may be removed to the fields where wanted. Peat and swamp muck, if before thrown into heaps and drained, may be sledged home, or into the fields where they are to be used. If manure can be had of any one unwise enough to part with it, let it now be drawn home and stored, and not allowed to ferment unless well covered with earth and gypsum, to absorb the gases that would otherwise escape. During the winter months, all the tools should be put in order, and any old difficulties remedied, and new improvements added to them. The children should all be at school, and their studies well looked after. Their head-work in winter, is of more consequence than their hand-work in summer; and you can not expect to make good or efficient men and women out of ignoramus. Let the grown folks look well to the manner of spending their own long winters evenings. Especially, see to it, that you carefully look over your agricultural books and periodicals, read attentively all they contain relative to your own business, and note carefully how far your own experience corresponds with, or differs from the information there detailed. If you have any valuable facts to add to the general stock of knowledge, prepare and send them for publication, as a partial return for the advantage you have received from others on similar subjects.

Improve all the clear frosty weather this month to break out hemp. Have a care of the tobacco, and if the weather be open, continue plowing.

**KITCHEN GARDEN.**—Hot beds should now be made by those desirous of having very early vegetables. This may be done with a layer of horse manure two feet deep, well settled together, over which place a few inches of garden mould, intermixed with sand, unless there is enough in the soil. Around this is placed a frame to keep the manure and soil in their place, and over it glass frames inclining about 25° toward the south. The seeds of all such vegetables as are required for early use, may then be sown, such as cabbages, cauliflower, radishes, lettuce, tomatoes, &c. The surface should be kept sufficiently moist, and during the middle of the day in very warm weather, the glass may be withdrawn so as to let the sun in upon the plants. As much air should be admitted as can safely be done without injury to the plant from reducing the temperature too greatly, as the growing vegetables soon change the air and render it unfit for nutrition. A great many little comforts may be procured by some attention to a hot bed; and if you live near a market, enough may be sold from your early vegetables to remunerate you for all trouble and expense thrice over. If the ground is frozen, continue preparing for spring, as directed in December.

**FRUIT GARDEN AND ORCHARD.**—Examine your orchards and cut off all dead limbs close to their trunks or branches; scrape off the moss, &c. General pruning should be left until summer.

**FLOWER GARDEN & PLEASURE GROUNDS.**—The directions of December will also apply to this month. At your leisure hours prepare labels for flowers next season, and get everything in order for the work in the spring.

#### SOUTHERN CALENDAR FOR JANUARY.

As a great portion of the directions given in the Northern Calendar, for each month in the year, will apply to the South, it is not deemed necessary to recapitulate them. Most of the operations which relate to the tilling of the earth; the raising of garden vege-

table or fruits; the cultivation of flowers, herbaceous plants, or shrubs; the laying out of ornamental grounds or plantations; the preparation of composts or manures, and the rearing and management of stocks or animals, will be nearly the same in both sections of the country. The chief differences consist in the seasons in which these operations are performed, and the cultivation of cotton, rice, sugar-cane, hemp, and tobacco. The spring and harvest seasons of the South are generally in advance of those of the North by two or three months.

Let it be remembered that the florist, the gardener, and the agriculturist, have no remission from labor; for there is something to be done in every week in the year—something to attend to which will add to wealth, amuse and instruct the mind, interest the imagination, and benefit the general tone of mental and physical health.

“Persevere against discouragement—keep your temper—employ leisure in study, and always have some work on hand—be punctual and methodical in business, and never procrastinate—never be in a hurry—preserve self-possession, and not be talked into conviction—rise early and be an economist of the time—maintain dignity without the appearance of pride—manner is something with everybody, and everything with some—be guarded in discourse, attentive and slow to speak—never acquiesce in immoral or pernicious opinions—be not forward to assign reasons to those who have no right to ask—think nothing in conduct unimportant and indifferent—rather set than follow example—practise strict temperance, and in all your transactions remember the final account.”

In the early part of this month, if it has not been done in December, select a spot of ground, prepare the necessary beds, and sow your tobacco seed. Make the beds, if possible, on land newly cleared, or at all events on land which has not been seeded with grass. Break up the ground properly, grub up the small stumps, dig out the roots, and carefully remove them with the hand. Make the beds from three to four inches high, of a reasonable length, and from three to three and a half feet broad, so as to enable the fingers, at arm's length, to weed out the tender plants from both sides of the bed. Before the seed is sown, take some dry trash, and burn it off upon the beds, to destroy insects and grass-seeds. Take one ounce of tobacco-seed, mix it with a quart of dry ashes, so as to separate it as much as possible, and sow it broadcast. After it has been thus sown, slightly rake the surface, tread it down with your whole weight, that the ground may at once closely adhere to the seed, and sprinkle with rain or river water. Should the beds become dry, from blighting winds or other causes, watering should be constantly repeated until the young plants are large enough to set out. Keep the surface of the beds in a moist state, well stirred, and the plants clear of weeds.

Finish planting sugar-cane, if the season requires it, covering the canes to the depth of about three inches. Do not grind the cane any faster than it matures, for the sake of finishing your harvest. When the cuticle of the cane becomes dry, smooth, and brittle, the pith grayish approaching to brown, the juice sweet and glutinous, and when cut crosswise with a sharp knife without appearing soft and moist like a turnep, then it is in a fit state to cut.

Plant all kinds of evergreens, either from slip or roots. Sow peas and beans, summer cabbage, and parsley. Sow spinach for seed in a bed of rich mould. Set out your artichokes, which will bear in the fall. Transplant rose-bushes, all kinds of flowering shrubs, and trees for fruit, and ornament, except the orange tribe, which should not be removed before spring.

See Northern Calendar for March and April.



**NUTWITH, WINNER OF THE ST. LEGER, 1843,** copied from an outline portrait taken expressly for Bell's Life in London, by J. F. Herring. For the above cut, we are indebted to the obliging editor of the New York Spirit of the Times, Wm. T. Porter, Esqr.

**DESCRIPTION.**—Nutwith stands, according to Robert Johnson's measurement, 15 hands  $2\frac{1}{4}$  inches; but has, when mounted, the appearance of a smaller horse. He has a long, straight head; light and rather short neck; strong shoulders, well laid back, and is good in the brisket; unusually large arms, with clean light legs, and long upright pasterns; his back short, his loins arched; well ribbed, as a sailor would say, fore and aft; has

long quarters, full muscular gaskins and thighs; small hocks, and rather curby in their appearance; tail well set on. A noble marquis sent his agent to Middleham to see him when a two-year-old, and the latter gave it as his opinion that his hocks were not to be trusted to, or in all probability he would have gone south.

**PEDIGREE.**—Nutwith bred by the late Captain Wrath-er, is by Tomboy, out of a Comus mare bred by Mr. Wrath-er in 1816, her dam Plumper's dam by Delpini, out of Miss Muston by King Fergus—Espersykes; Hackfall and Colchicum are out of the same mare. He takes his name from Nutwith, near Masham, York-shire.

## FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamship *Hibernia*, we have received our European journals up to the 5th December.

**MARKETS.**—*Ashes* have receded a trifle, and are dull of sale. *Cotton* of ordinary to fair qualities, has risen  $\frac{1}{2}$ d. per lb., and a good business had been done in it. The import into Liverpool from the first of the year to the first of December, was 1,488,000 bales, against 1,133,000 in the first eleven months of last season,—the supply from the United States was 1,237,000—being an increase of 371,000 bales. The stock in this port 1st inst., was 657,000 bales, against 425,000 at the same period last season; the stock of *American* was about 450,000, being an increase of 223,000 bales. *Flour* continued in little demand, but old prices fully maintained. *Lard* firm, and none from Missouri on hand. *Naval Stores* in fair demand. *Provisions.* The new *Beef*, which had arrived from the United States, appeared better than any heretofore shipped—not much has been sold as yet—holders firm. *Pork* and *Hams*, in good demand. *Lard* has fallen a trifle, with large sales. *Cheese* of the finer qualities, much sought after—that which is poor, very dull, and difficult to get rid of. *Rice* and *Tobacco* quiet.

*Money* is rather more in demand, the rates of discount the same as at our last.

*American Stocks.*—A very considerable increase of business has taken place in these, and the market was quite animated.

*Business generally* in England wears a favorable aspect, and the people at present tolerably well employed.

**GARDENERS' CHRONICLE.**—*Errors of Liebig.*—“How different are the evergreen plants, the *oleaginous plants*, the mosses, the ferns, and the pines, from our annual grasses, the *ceralia* and *leguminous* vegetables! The former, at every time of the day during winter and summer, obtain carbon through their leaves by absorbing carbonic acid which is not furnished by the barren soil on which they grow; water is also absorbed and retained by their *coriaceous* or *fleshy leaves* with great force. They lose very little by evaporation compared with other plants. On the other hand, how very small is the quantity of mineral substances which they withdraw from the soil during their almost constant growth in one year, in comparison with the quantity which one crop of wheat of an equal weight receives in three months!”

Here we have almost as many errors as sentences. There is not a shadow of evidence that what we call evergreens are acted on by soil in a manner different from ordinary plants; or if there be, it is in favor of their requiring a larger amount of carbon in the soil than other plants—witness all those races of evergreens that flourish only in peat. In the next place, to say that mosses receive no carbon from the soil which sustains them, is an assertion in the very teeth of facts; we do not find these plants thriving on white and pure sand, but on the surface of the ground, in bogs, on housetops, and other places where carbon must necessarily abound, as is shown indeed by the dark color of the soil that bears them. Then ferns, we are told, retain water by their *coriaceous* leaves with great force; which is true of one or two species only. On the contrary, they are plants whose evaporating powers are (as is well known) so great, that they can in general exist only in very damp situations. What *oleaginous* plants may be, we do not know. As to cereal plants (*ceralia*, as it is always spelt in this book!)—it is true that they withdraw a large quantity

of mineral matter from the soil on which they grow; but we can not comprehend why that circumstance should prove that their functions of respiration are at all different from those of other plants.

**Keeping Apples and Pears.**—The best mode of keeping apples and pears is to place them in close drawers made of wood that does not contain turpentine; these being in a room so constructed as to resist as much as possible all sudden changes of the weather, and in a cool but dry situation.

**To destroy Red Spiders.**—We are not aware of any other means of destroying the red spider, than by keeping up a damp, humid atmosphere, or by the application of the fumes of sulphur.

**To kill Dock, Couch-Grass, &c., in Lawns or Gardens.**—Cut off the tops by mowing, or with any sharp instrument, and while the wounds are fresh, water them with ammoniacal liquor from the gas-works. It is remarkable how soon the whole mass becomes not only dead, but rotten.

**Pear-Training superseding the necessity of Root-Pruning.**—Going over the pear quarter at the royal gardens at Versailles, I found from the head-gardener that he considered the tying-down the branches a sufficient check to overgrowth, without the assistance of root-pruning, except as regards any very free-growing varieties. Nothing could, to my mind, exceed the neatness and good-bearing of the pear-trees; they were of a conical shape and all the branches tied down so as to present the appearance of a conical chandelier, and of course much more bearing-wood obtained than in the trees which were stunted by root-pruning.

**Manure for Melons.**—It is contended that hen-dung is equal to pigeon's-dung, in producing a large quantity and fine quality of melons.

**Guano Manure for Turnips.**—It has been found by experiment, that one cwt. of guano is equal to five yards of farm-yard manure, or six bushels of bones, in raising turnips. Four cwt. per acre of guano is considered good manuring.

**Organic Matter in Water.**—Prof. Connell has shown that a notable quantity of—apparently nitrogenous—organic matter is present in the purest water from terrestrial sources. May not a part of the beneficial effects of irrigation be due to such dissolved organic matter? Even as regards the animal economy, we can not suppose that it will not contribute, in proportion to its amount, to the nourishment of man and other animals partaking of such waters; and this will more particularly be true, if it really be an azotised body.

**Mr. J. J. McCaughan.**—The London Gardeners' Chronicle of Dec. 2d, copies the article on the *Palmetto-Root*, which appeared in our 2d vol., page 21, from the valuable communication of our correspondent above.

**Liebig's Chemistry.**—A third edition of this valuable work is published, which is pronounced far superior to the others. The Chronicle contains an excellent review of it, which we shall copy at length in our next, if we can spare the space for it.

**Pawlownia Imperialis.**—This beautiful tree grows in Japan to the height of 30 feet. In the Garden of Plants in Paris, it has already produced ripe seeds.

**Ancient Oaks.**—In the court-yard of a modern farmhouse, which stands a league and a half southwest of Saintes, in the department of the lower Charente, grows an oak which is estimated to be from 1,800 to 2,000 years old, and is thought likely to stand some hundred years longer. The diameter at the ground is

from 24 to 27 feet; at the height of a man, 18 to 21 feet. The expansion of the branches is from 112 to 120 feet; the height of the tree is 60 feet. A room has been built out of the dead wood, from 9 to 12 feet wide and 9 feet high.—*Annals of the Agricultural Society in Auslande*, No. 142.

We suspect for "diameter" above, we should read circumference; for it is very improbable, that any tree in Europe can be 60 feet round its trunk at the height of a man from the ground. There is an oak now standing on the estate of Judge Lawrence, Little Neck Bay, Long Island, five miles from Flushing, which has a spread of branch of 125 feet, which is the greatest diameter we ever saw or heard of in an oak.

**GARDENERS' MAGAZINE.**—*First introduction of the Ruta-Baga into England.*—The Rev. Thomas Newcome, Rector of Shenley, Hertfordshire, says, that Sir David Kinlock of Gilmerton, near Edinburg, told his father, when Vicar of Gresford, Denbighshire, that a Swedish nobleman gave him the seed.

**Ill health of Mr. Loudon.**—It pains us to hear that this celebrated author of so many valuable works on agriculture, gardening, and architecture, has been lately seized with an inflammation of the lungs, terminating in chronic bronchitis, which, even if the disease should be considerably alleviated, will effectually prevent him from any longer pursuing his profession, of landscape-gardener. Mr. Loudon fell into ill health in 1821, which obliged him ultimately to have his right arm amputated, his left hand being at the same time so much injured as to leave him with only the partial use of two fingers and his left knee being ankylosed. In consequence of these bodily infirmities, Mr. Loudon has been obliged to keep an amanuensis and a draughtsman for the last twenty years, and also a servant to act as valet; and had it not been for the expenses thus incurred, and others arising from the same source, he might have been now independent, even without his literary property. This explanation is due to those who are ignorant of Mr. Loudon's personal character.

**FARMERS' MAGAZINE.**—*Multicole Rye.*—It grows on common soil, suited to the old-fashioned rye, but its habits are totally different. By the report of above thirty respectable agriculturists near L'Orient, who have cultivated it for the last two years, it does best when sown the first of June. Its growth is most rapid. Two crops of it are, before July, cut for hay; and, by the 15th of August, a grain crop is reaped. The straw is from eight to ten feet high, and the ear from ten to eighteen inches long. An account of this may be found in the Transactions, published by the French Minister of Agriculture, &c. Would not this variety of spring-rye be worthy of trial in those parts of the country where other grasses are difficult of growth, on soils rather sandy and light, but which, if in good condition, are the best for this grain? The growth, if correctly stated, is truly surprising.

**Rev. W. L. Rham.**—This celebrated writer and agriculturist, died at his living of Winkfield, in Berkshire, on the 31st October last, in the 64th year of his age. He was an eminent contributor to the *Gardeners' Chronicle*, and the *Journal of the Royal Agricultural Society*, and wrote most of those excellent articles on agriculture in the *Penny Cyclopaedia*. He had established a school in his parish, on an excellent plan, uniting practical industry in farm-labor, with the usual routine of instruction. Mr. Rham was born in Switzerland, but descended from a family originally German. Several of his relatives are conspicuous in the mercantile world, particularly in the United States.

## Editor's Table.

**THE SILK QUESTION SETTLED,** by the testimony of One Hundred and Fifty Witnesses. Report of the Proceedings of the National Convention of Silk-Growers and Silk-Manufacturers, held in New York, Oct. 13th and 14th, 1843; published under the direction of the American Institute. Saxton & Miles, 205 Broadway, New York; price 25 cents. This is a very valuable octavo work of 80 pages, double columns, and is the most complete in its information on the culture of silk, of anything yet put before the American public. We bespeak for it an attentive perusal, it being dedicated to those most interested, viz: the farmers of the United States, every one of whom should possess himself of a copy of the above work. The price is made low, that it shall have a large circulation, and we are of opinion that its publication will be the means of giving a new stimulus to the growing and manufacture of silk throughout the country.

**QUARTERLY JOURNAL** of the Newfoundland Agricultural Society, published by J. T. Burton, Duckworth-street, St. Johns, Newfoundland, 8 pages quarto, price 2s. 6d. When we found the above work on our table this morning, just after a shower of snow, we rubbed our eyes with no small astonishment, thinking it must have dropped from the clouds—a *printed snow-flake*. Agriculture in Newfoundland! pray what do they raise there, save fat fish from the ocean? Well, gentle reader, as you may be in doubt, we will tell you from the very pages of our snowy brother of the north, themselves. Potatoes, turnips, oats, barley, wheat, hay, grass—Here stops our enumeration, for we have only the 4th number of the work. Will the editor please send us the other 3 numbers, and tell us all about the agriculture of Newfoundland? We would give more to see one single article on arctic products, than all his extracts from foreign works put together, for we confess ourselves most profoundly ignorant of the agriculture of Newfoundland. The next journal we shall expect to hail, will be the **QUARTERLY**, or **MONTHLY NORTH POLE**. We fancy if any one ever succeeds in reaching it, and gets into Simms' hole, he will find it an admirable conservatory for growing tropical plants. Why not? Geologists affirm that they grew within the polar circles formerly, why should they not continue to do so? Who knows, experimentally? We have a notion that it is a famous place there for tropical productions, and that fine apples, may be found, as big as a bushel-basket, oranges as large as our hat, and bananas a yard long!

**THE PLANTER'S BANNER AND LOUISIANA AGRICULTURIST.**—This excellent paper comes to us under a new form, a handsome quarto of 8 pages, weekly, price \$4 a year, in advance. It is published in Franklin, La., and edited by Robert Wilson. It gives us great pleasure to see it devote so much of its space to agriculture; and we have been no less entertained than instructed, by the articles which appear on this subject. Its road journal is capital. Will it have the goodness to send us, marked, Mr. Packwood's system of rotation of crops on his sugar plantation? We particularly commend the *Banner* and *Agriculturist* to the notice of the planters of the south.

**THE CONCORDIA INTELLIGENCER.**—This spirited paper is published at Vandalia, La., directly opposite Natchez, and is edited with much spirit and ability, by Messrs. Patterson & Thorpe. We especially commend it to southern readers, for the interesting particulars it is continually giving them upon the subject of agriculture.

## REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, DECEMBER 25, 1843.

ASHES, Pots, . . . . .	per 100 lbs.	\$4 50	to	\$4 56
Pearls, . . . . .	do	5 12	"	5 19
BACON SIDES, Smoked, . . . . .	per lb.	3 1	"	4 1
In pickle . . . . .	do	3	"	4
BALE ROPE . . . . .	do	6	"	9
BARK, Quercitron . . . . .	per ton	23 00	"	24 00
BARLEY . . . . .	per bush.	54	"	56
BEANS, White . . . . .	do	1 25	"	1 75
BEEF, Mess . . . . .	per bbl.	6 00	"	7 00
Prime . . . . .	do	4 00	"	5 00
Smoked . . . . .	per lb.	6	"	7
Rounds, in pickle . . . . .	do	4	"	5
BEESWAX, Am. Yellow . . . . .	do	28	"	30
BOLT ROPE . . . . .	do	12	"	13
BRISTLES, American . . . . .	do	25	"	65
BUTTER, Table . . . . .	do	12	"	15
Shipping . . . . .	do	6	"	10
CANDLES, Mould, Tallow . . . . .	do	9	"	12
Sperm . . . . .	do	31	"	38
Stearic . . . . .	do	20	"	25
CHEESE . . . . .	do	4	"	7
CIDER BRANDY, Eastern . . . . .	per gal.	35	"	40
Western . . . . .	do	28	"	35
CLOVER SEED . . . . .	per lb.	9	"	10
COAL, Anthracite . . . . .	2000 lbs.	5 60	"	6 00
Sidney and Pietou . . . . .	per chal.	5 75	"	6 25
CORDAGE, American . . . . .	per lb.	11	"	12
CORN, Northern . . . . .	per bush.	55	"	57
Southern . . . . .	do	52	"	54
COTTON . . . . .	per lb.	7	"	11
COTTON BAGGING, Amer. hemp per yard.		16	"	18
American Flax . . . . .	do	15	"	16
FEATHERS . . . . .	per lb.	27	"	31
FLAX, American . . . . .	do	8	"	8 1
FLAX SEED, rough . . . . .	per 7 bush.	9 00	"	9 25
clean . . . . .	do	10 00	"	—
FLOUR, Northern and Western . . . . .	per bbl.	4 56	"	4 75
Fancy . . . . .	do	5 25	"	5 50
Southern . . . . .	per bbl.	4 50	"	4 75
Richmond City Mills . . . . .	do	5 50	"	5 62
Rye . . . . .	do	5 60	"	3 25
HAMS, Smoked . . . . .	per lb.	5	"	7
Pickled . . . . .	do	4	"	6
HAY . . . . .	per 100 lbs.	50	"	56
HIDES, Dry Southern . . . . .	per lb.	9	"	11
HEMP, Russia, clean . . . . .	per ton.	185 00	"	190 00
American, water-rotted . . . . .	do	140 00	"	180 00
do dew-rotted . . . . .	do	90 00	"	140 00
HOPS . . . . .	per lb.	7	"	9
HORNS . . . . .	per 100	1 25	"	5 00
LARD . . . . .	per lb.	5 1	"	7
LEAD . . . . .	do	3 1	"	4
Sheet and bar . . . . .	do	4	"	4
MEAL, Corn . . . . .	per bbl.	2 62	"	2 75
Corn . . . . .	per hhd.	12 00	"	12 50
MOLASSES, New Orleans . . . . .	per gal.	23	"	30
MUSTARD, American . . . . .	per lb.	16	"	31
OATS, Northern . . . . .	per bush.	32	"	34
Southern . . . . .	do	26	"	30
OIL, Linseed, American . . . . .	per gal.	75	"	80
Castor . . . . .	do	80	"	85
Lard . . . . .	do	55	"	65
OIL CAKE . . . . .	per 100 lbs.	1 00	"	—
PEAS, Field . . . . .	per bush.	1 25	"	—
PITCH . . . . .	per bbl.	1 12 1	"	1 37
PLASTER OF PARIS . . . . .	per ton.	2 00	"	2 25
Ground, in bbls. . . . .	per cwt.	50	"	—
PORK, Mess . . . . .	per bbl.	10 50	"	11 38
Prime . . . . .	do	8 75	"	9 50
RICE . . . . .	per 100 lbs.	2 37	"	3 00
ROSIN . . . . .	per bbl.	65	"	95
RYE . . . . .	per bush.	62	"	64
SALT . . . . .	per sack	1 35	"	1 50
SHOULDERS, Smoked . . . . .	per lb.	3	"	4 1
Pickled . . . . .	do	3	"	4
SPIRITS TURPENTINE, Southern per gal.		33	"	36
SUGAR, New Orleans . . . . .	per lb.	5	"	7 1
SUMAC, American . . . . .	per ton	25 00	"	27 50
TALLOW . . . . .	per lb.	6	"	7 1
TAR . . . . .	per bbl.	1 25	"	1 50
TIMOTHY SEED . . . . .	per 7 bush.	13 00	"	14 00
TOBACCO . . . . .	per lb.	3	"	6 1
TURPENTINE . . . . .	per bbl.	2 62	"	2 87
WHEAT, Western . . . . .	per bush.	1 00	"	1 05
Southern . . . . .	do	90	"	1 00
WHISKEY, American . . . . .	per gal.	23	"	25
WOOL, Saxony . . . . .	per lb.	35	"	50
Merino . . . . .	do	30	"	35
Half-blood . . . . .	do	25	"	27
Common . . . . .	3do	18	"	22

## New York Cattle Market—December 25.

At market, 700 beef Cattle, (100 southern), 30 Cows and Calves, and 100 Sheep and Lambs.

Prices.—*Beef Cattle*.—In consequence of a small supply, we have to note an advance—retailing qualities \$4.25 a 75 to \$5.25 a 50, with sales of extra at \$6—200 unsold.*Cows and Calves*.—All taken at \$16 a \$26.*Sheep and Lambs*.—All taken at \$1.25 a \$4.50 as in quality.*Hay*.—At the close of our report the supplies are scanty; sales at 75c. per cwt. for loose.

**REMARKS.**—*Ashes* are in fair request. *Cotton* is brisk, with a very active demand, and although our prices are above what the English market will warrant, they still have an upward tendency, from the fact that we know the deficit of a short crop, and can better calculate than Europeans, the prospects on an advance. Exports from the United States since 1st September last, 172,314 bales; same time last year, 269,298; same time year before, 198,161. *Flour* and *Meal* are in fair demand. Of the former it is ascertained that there are about 400,000 lbs. in store in this city. *Grain* of all descriptions in moderate request. *Hay*, there is none afloat, and what is in store is held above the views of shippers. *Molasses* heavy. *Naval Stores* have a downward tendency. *Beef*, *Pork*, and *Lard* at this moment are quite dull. *Rice* has come more into demand. *Seeds* continue firm. *Sugar* rather sought after. *Tobacco*, considerable sales. *Wool* is very active, and sales increasing, especially in the middle qualities. *Dressed Hogs*, \$4.50 to \$5.00; at Cincinnati, \$2.25 to \$2.67. *Black-Eyed Peas*, \$1.38 per bushel. *Money* is rather more in demand. No material alteration in rates.

*Real Estate* is fast coming into request.  
Stocks are without change.

**ANSWER TO CORRESPONDENTS.**—J. H. H. We shall request some of our Virginia friends to answer your inquiries. They can do it better than we.

M. L. S. Will you be so good as to forward us, by private conveyance, a small quantity of blue sedge-grass seed. We mean the tall, nutritious grass, of the barrens; at the same time send us its botanical name, and a description, and some of the dried grass itself, full length.

The *Dollar Farmer* will please direct us an extra copy beginning with its present volume. We wish to send it to a subscriber in England. Shall we send cash for this, or an extra copy of our paper in exchange?

T. H. The sheep shall be attended to, and we will write you soon about Devons.

**To English Correspondents.**—Our postages are as exorbitant, nearly, as your own, previous to the penny system being introduced into Great Britain, and if a letter contains four pieces, although the whole of them may not weigh as much as a letter-sheet, it is taxed full postage on every piece it contains, which would be quadruple in this instance. In writing to America, till our oppressive Post-Office law is changed, always use a *single* sheet, without an envelope. Printed matter send by itself, done up as near newspaper form as possible. Messrs. Wiley & Putnam are our agents in London, and will forward books, pamphlets, &c., at a small cost in their packages.

D. B. Birney, A. S., James H. Hepburn, F. J. Betts, S. S., J. J. McCaughan, J. H. Lyman, and Wm. H. Sotham, will appear in our next. Although the latter's communication was dated the 6th of Dec., it did not reach us till the 25th—of course too late for this number.

## HOVEY'S HORTICULTURAL MAGAZINE.

We have recently been appointed agents for this periodical, justly considered the most valuable of its kind in the United States. Any person subscribing through us will be promptly served, and we invite all interested in this subject to call and examine the work.

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## PROPOSAL FOR A COURSE OF LECTURES ON AGRICULTURAL CHEMISTRY.

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The Course is intended to be of service to the practical agriculturist, and therefore the methods of discovering and estimating the amount of useful saline matters in the soil will be fully examined. Portions of Botany, Vegetable and Animal Physiology, will be included, to enable the farmer to understand all that relates to the food of plants and animals. Geology, so far as it is necessary to the study of soils and the art of drainage, will be introduced. The action of Manures, and the quantity that may be economically applied, will also be considered.

The Course will be fully illustrated by drawings, minerals, geological specimens, chemical experiments, and analysis.

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One Lecture—On the Essential Structure of Vegetables.

One Lecture—On the Supply of Gaseous Food to Plants.

Two Lectures—On the Physical and Chemical Constitution of the Soil, and its relations to moisture and drought, the theory of drainage, fallows, &c.

One Lecture—On the Organic Food of Plants.

One Lecture—On the Mineral Food of Plants.

One Lecture—On the Influence of Gases, Water, and Saline Matters, on the production of nutritious substances in plants.

One Lecture—On the Nature of the Chemical Processes in Plants, and the methods of developing them.

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The classification of manures, mechanical, simple, complex, and organic; their values, preservation, and collection; the proportions in which they should be applied, &c., will conclude the course.

The Lectures will be delivered in the University of New York, on the evenings of Wednesday and Saturday, at half past seven o'clock. Fee for the course, 5 dollars.

The Lectures will commence on Wednesday, the 27th December, should a sufficient number of Subscribers be obtained.

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A quantity of Machinery for the manufacture of Silk, is offered for sale at the State Prison, Sing-Sing, N. Y., consisting of looms for weaving broad silks and braids, together with engines and reels for making cords, winding floss, sewing-silk, and from cocoons; likewise a number of other machines used in the manufacture of silk.

This machinery is now in practical operation at the Prison, and was constructed under the immediate superintendance of an experienced and skilful manufacturer, who still has the works under his charge, and is offered at private sale, between this date and the 15th of February next. If not disposed of at that time, will then be sold at public auction in New York.

For further particulars apply at the Prison, to

WM. H. PECK, Agent.

Dec. 23, 1843.

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